

LIGHTING SYSTEM

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دیجیتال خودرو

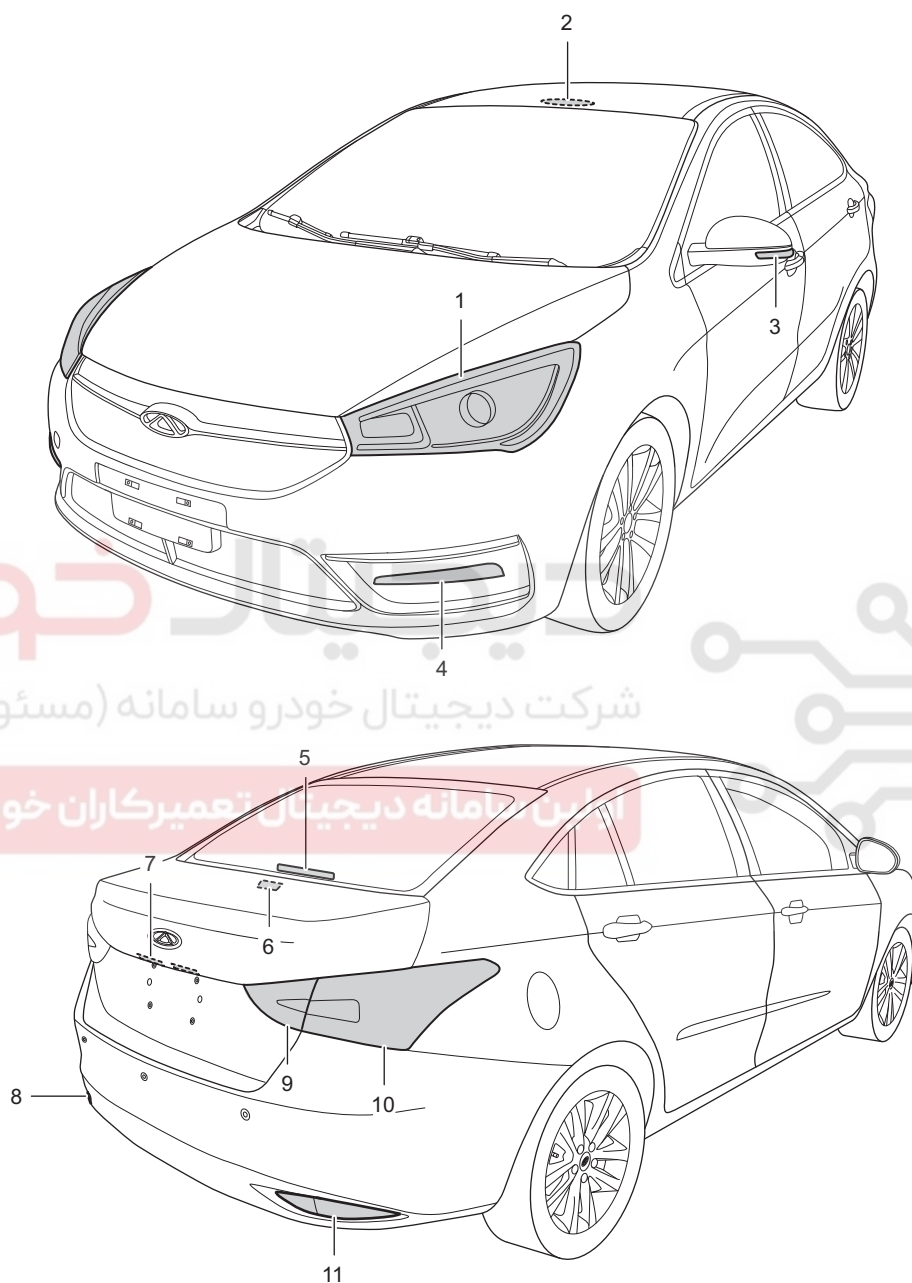
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



GENERAL INFORMATION

Light Position Diagram



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RM1A350010

36 - LIGHTING SYSTEM

1 - Headlight Assembly (Including High/Low Beam Light, Front Position Light, Turn Signal Light)	2 - Interior Front Dome Light
3 - Side Turn Signal Light	4 - Daytime Running Light
5 - High Mounted Stop Light	6 - Luggage Compartment Light
7 - License Plate Light	8 - Rear Left Fog Light and Retro-reflector Assembly
9 - Rear Combination Light Assembly (Movable Part)	10 - Rear Combination Light Assembly (Fixed Part) (Including Rear Turn Signal Light, Brake Light, Position Light)
11 - Right Back-up Light and Retro-reflector Assembly	

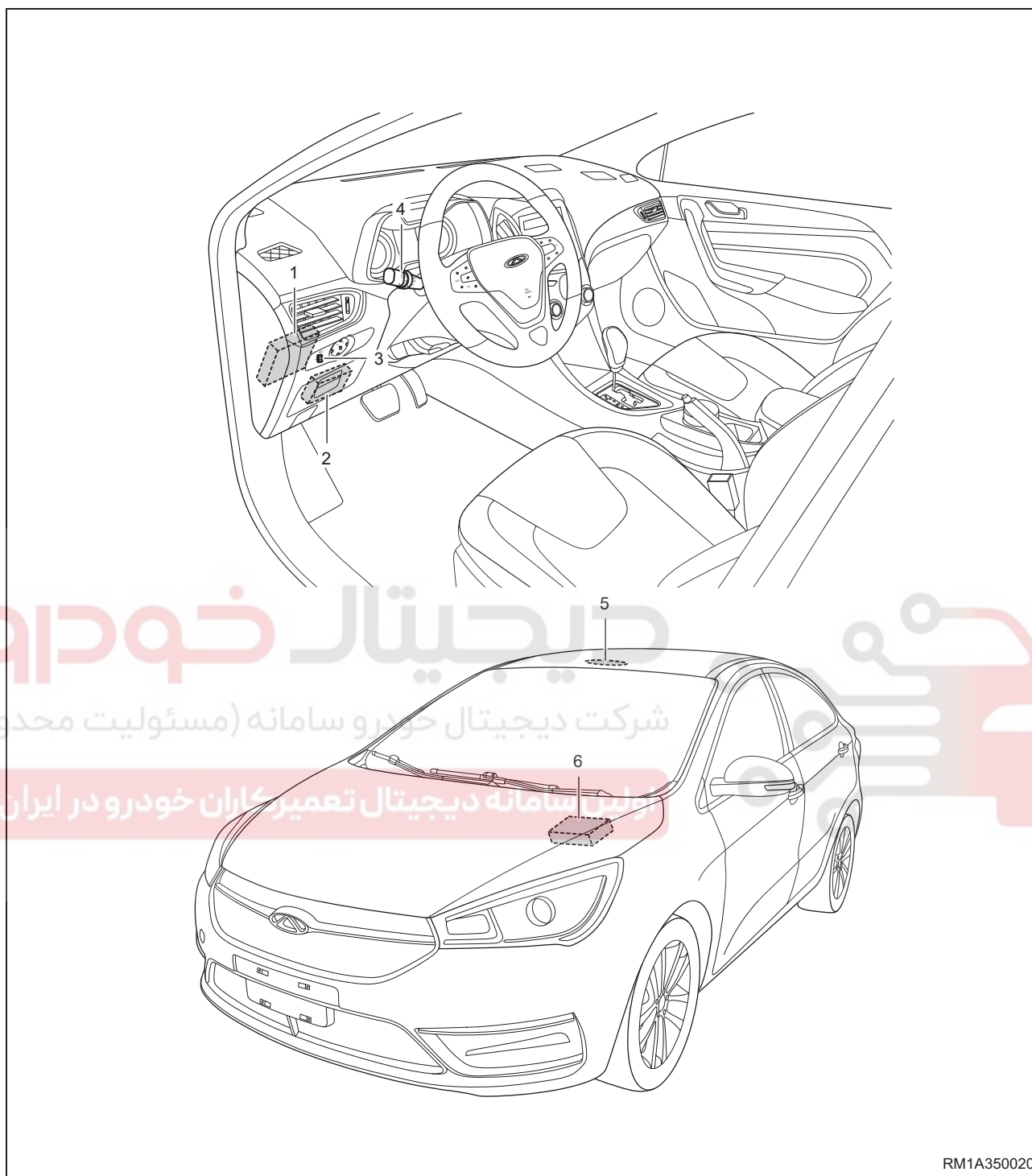
دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

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System Assembly Diagram



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RM1A350020

1 - Body Control Module (BCM)	2 - Instrument Panel Fuse and Relay Box
3 - Headlight Leveling Switch	4 - Combination Light Switch
5 - Interior Front Dome Light Switch	6 - Engine Compartment Fuse and Relay Box

Description

Lighting system on this model consists of vehicle lighting device and light signal device, which are used for normal operation of vehicle to ensure safety when driving at night or in fog.

Lighting system consists of headlight assembly (including headlight (high/low beam light), front position light and turn signal light), side turn signal light, front dome light, daytime running light, rear combination light assembly (including turn signal light, rear position light/brake light), rear fog light and back-up light, license plate light, high mounted stop light and luggage compartment light. Headlight assembly and rear combination light assembly use semi-closed structure for easy inspection and repair.

Specifications

Bulb Specifications

Bulb Name	Nominal Light Source (Model/Type)
Headlight (High/Low Beam Light)	H7
Front Position Light	LED
Front Turn Signal Light	PY21W
Brake Light	LED
Rear Fog Light	P21W
License Plate Light	C5W
High Mounted Stop Light	LED
Rear Position Light	LED
Rear Turn Signal Light	PY21W
Back-up Light	P21W
Side Turn Signal Light	LED
Front Dome Light	W5W
Daytime Running Light	LED
Luggage Compartment Light	C5W

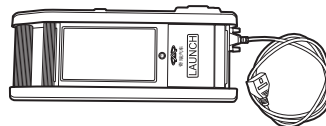
Torque Specifications

Description	Torque (N·m)
Headlight Assembly Fixing Bolt	4.5 ± 0.5
Rear Combination Light Assembly (Fixed Part) Fixing Nut	3.5 ± 0.5
Rear Combination Light Assembly (Movable Part) Fixing Nut	3.5 ± 0.5
Front Dome Light Assembly Fixing Screw	2.5 ± 0.5
High Mounted Stop Light Fixing Nut	2.5 ± 0.5
Back-up Light Switch Assembly	20 ± 2
Daytime Running Light	1.5 ± 0.5
Rear Fog Light and Retro-reflector	1.5 ± 0.5

Tools

Special Tool

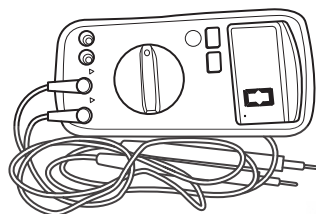
X-431 3G Diagnostic Tester



RCH0000001

General Tool

Digital Multimeter



RCH0000002

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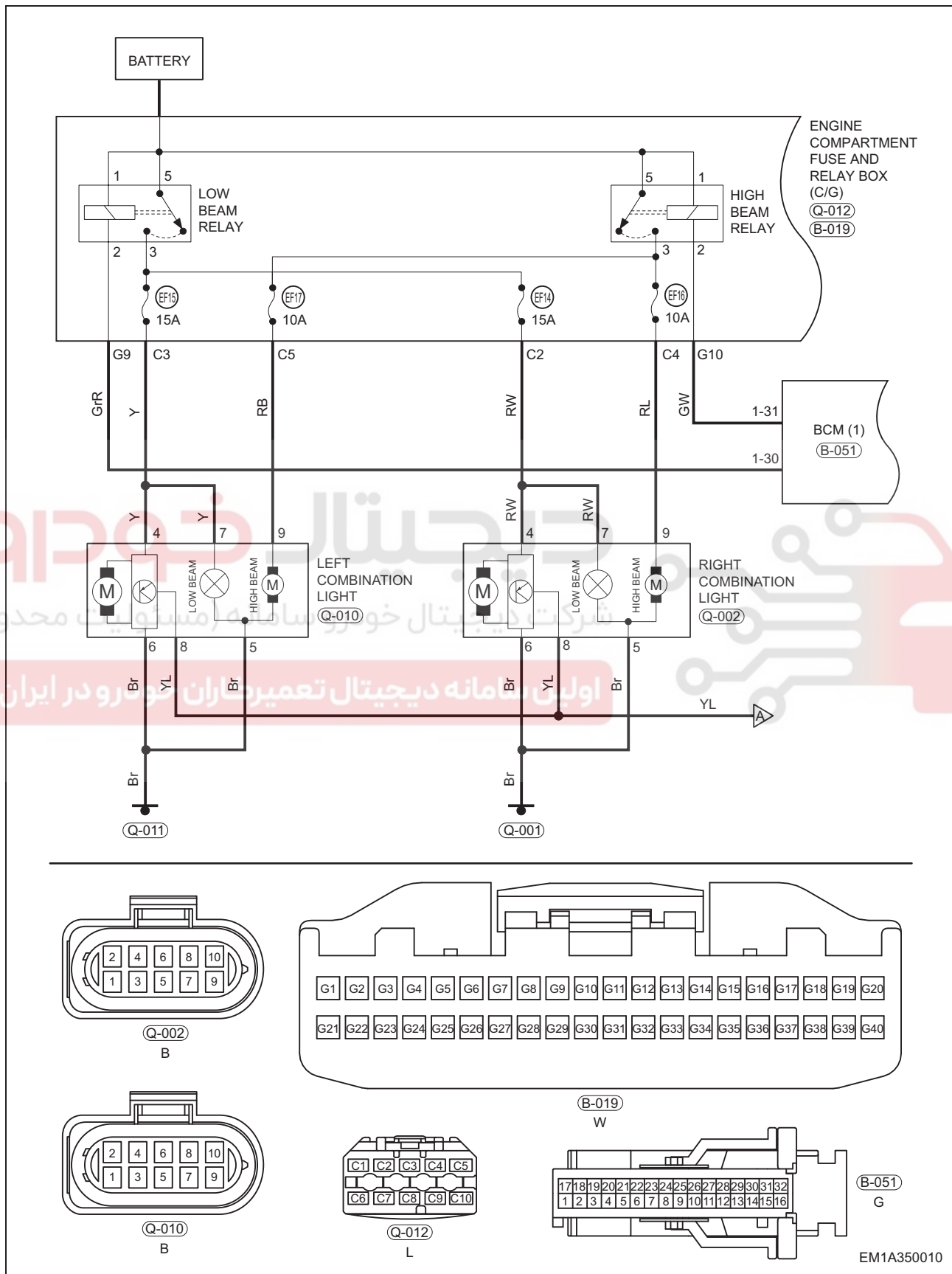
دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

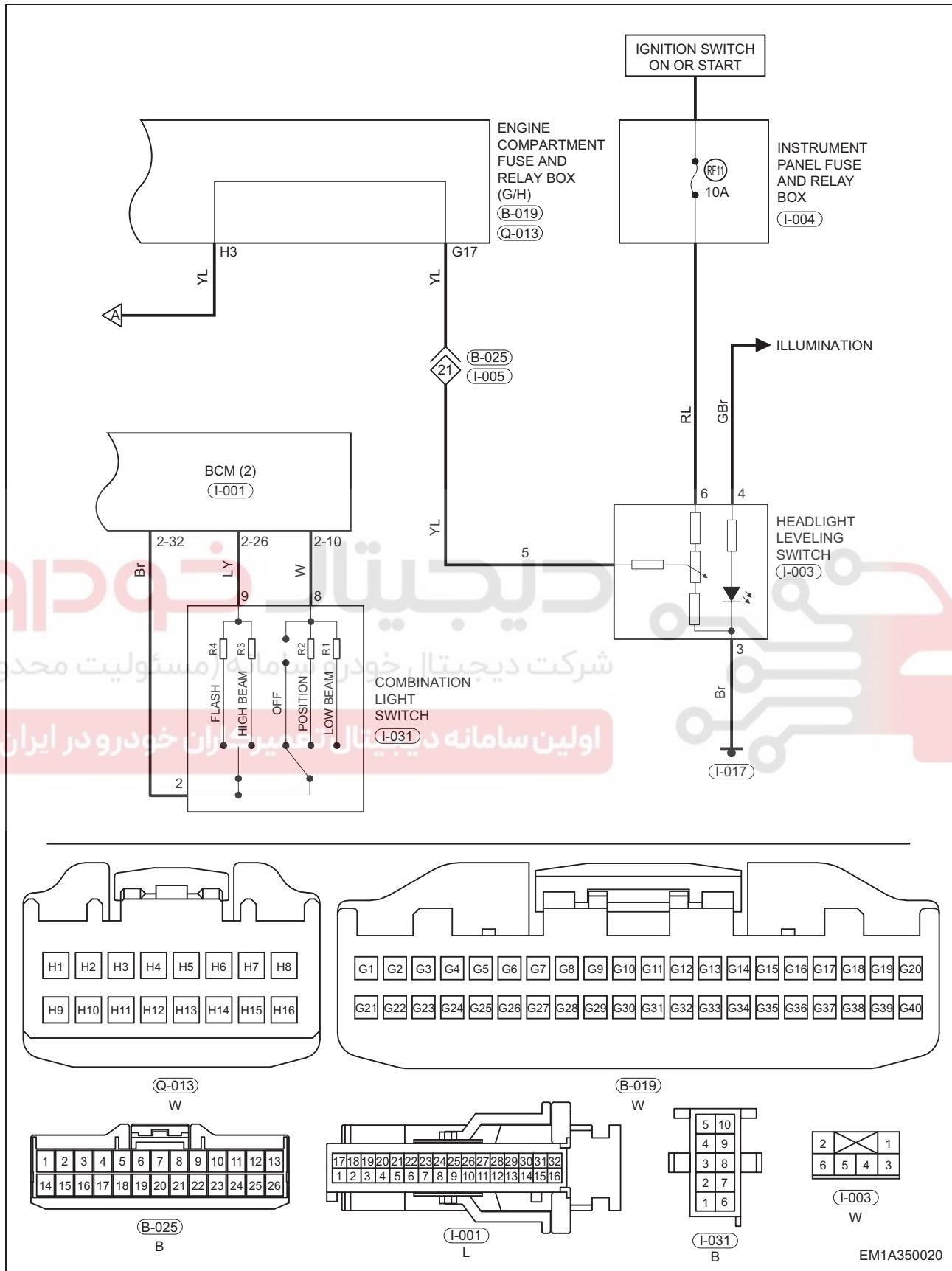
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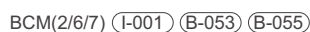
Circuit Diagram

High/Low Beam Light (Page 1 of 2)



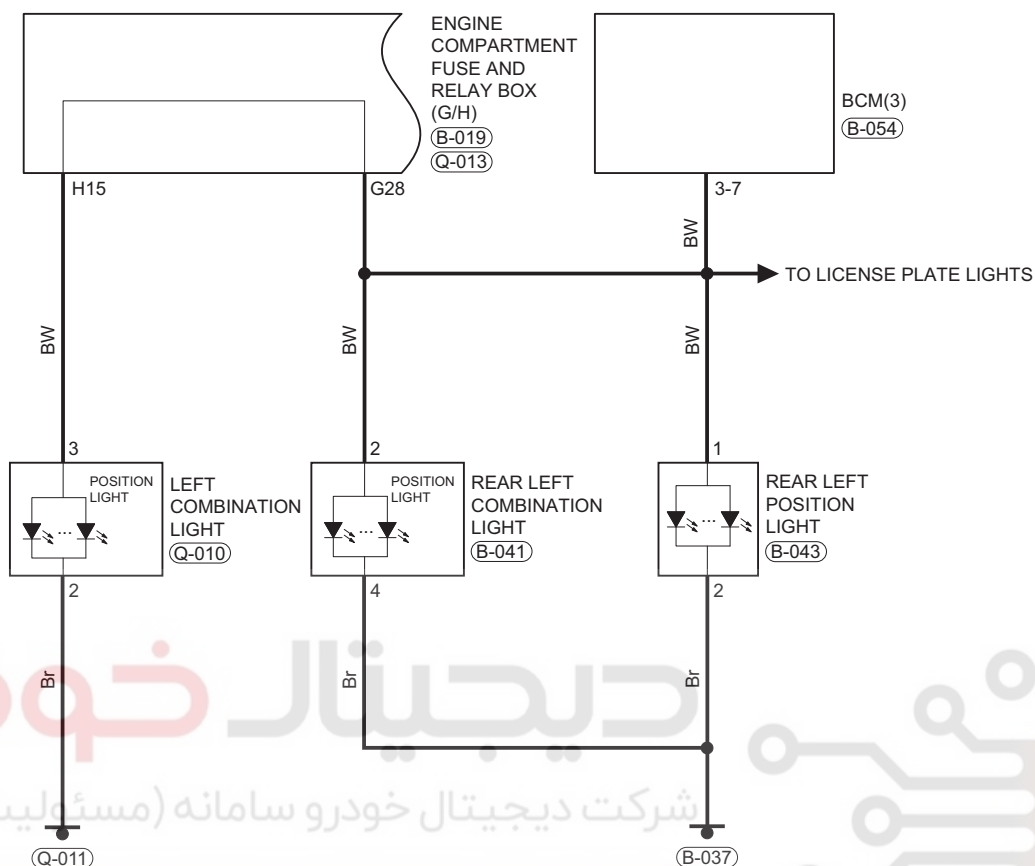
High/Low Beam Light (Page 2 of 2)



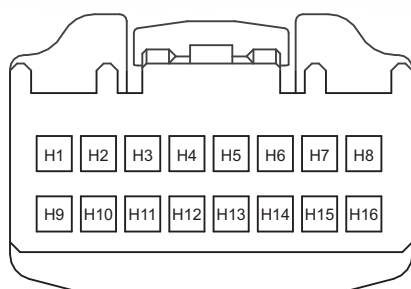
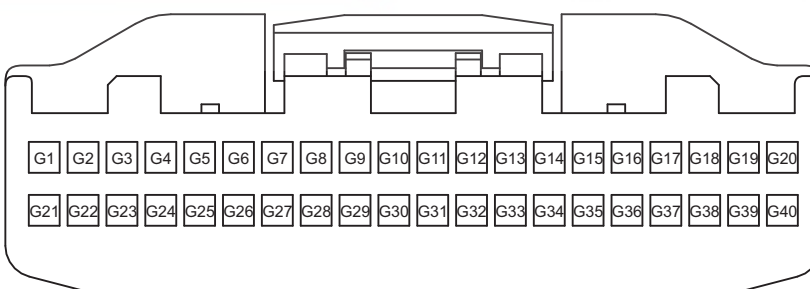
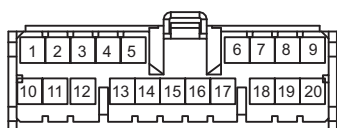
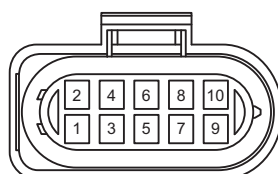
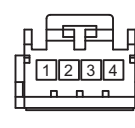


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Position Light (Page 2 of 3)

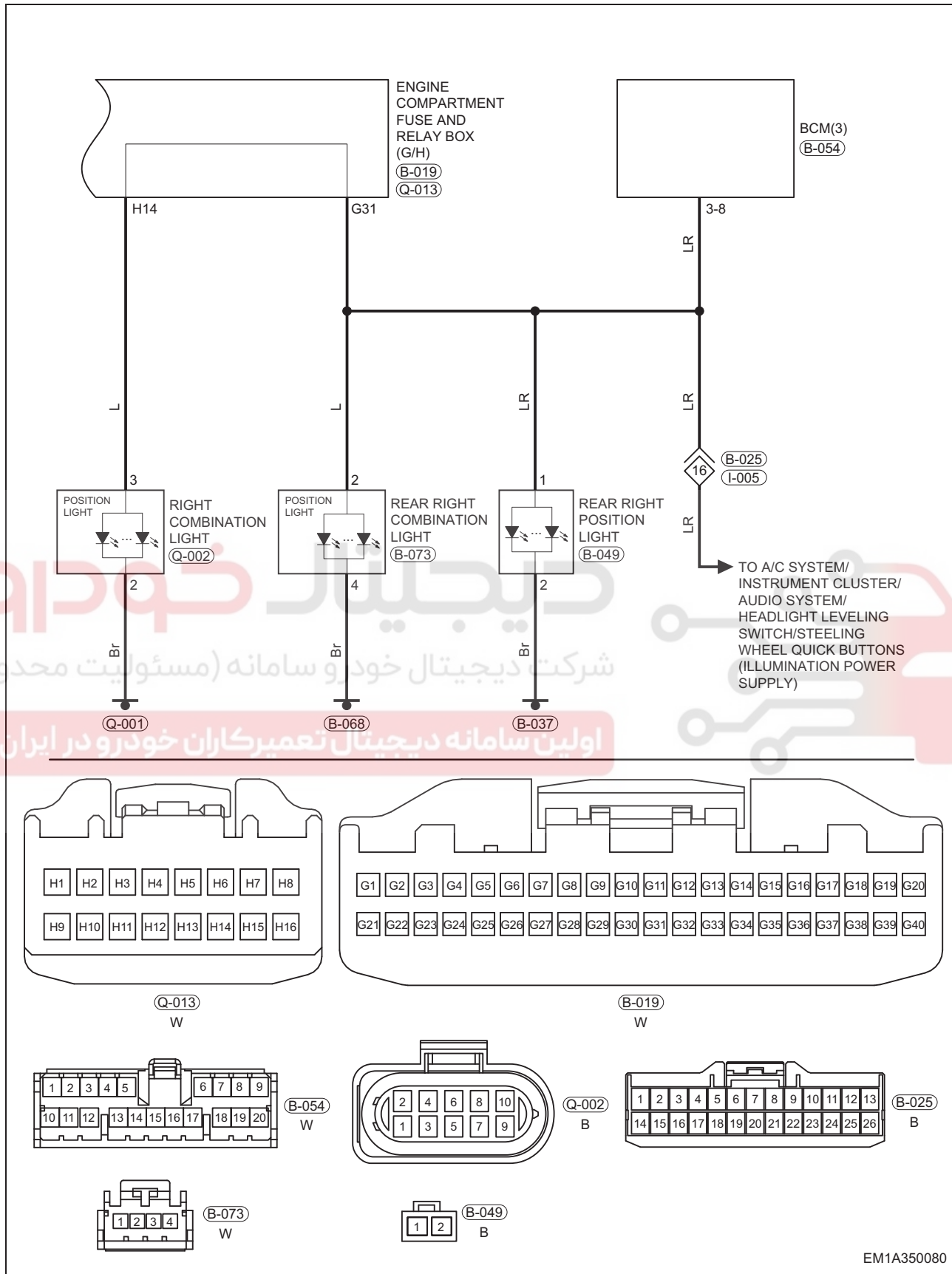


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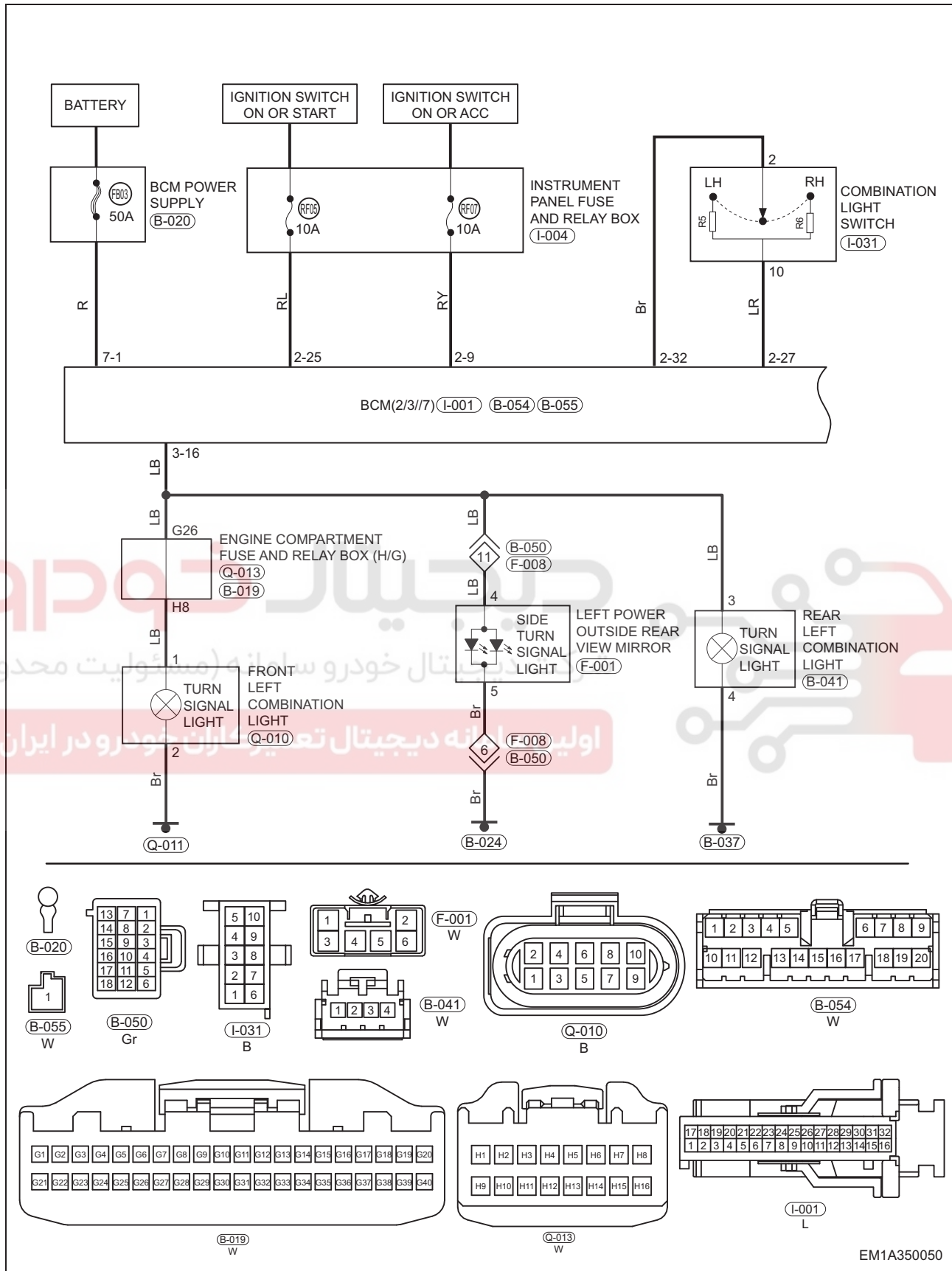
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WB-054
WQ-010
BB-041
WB-043
B

EM1A350070

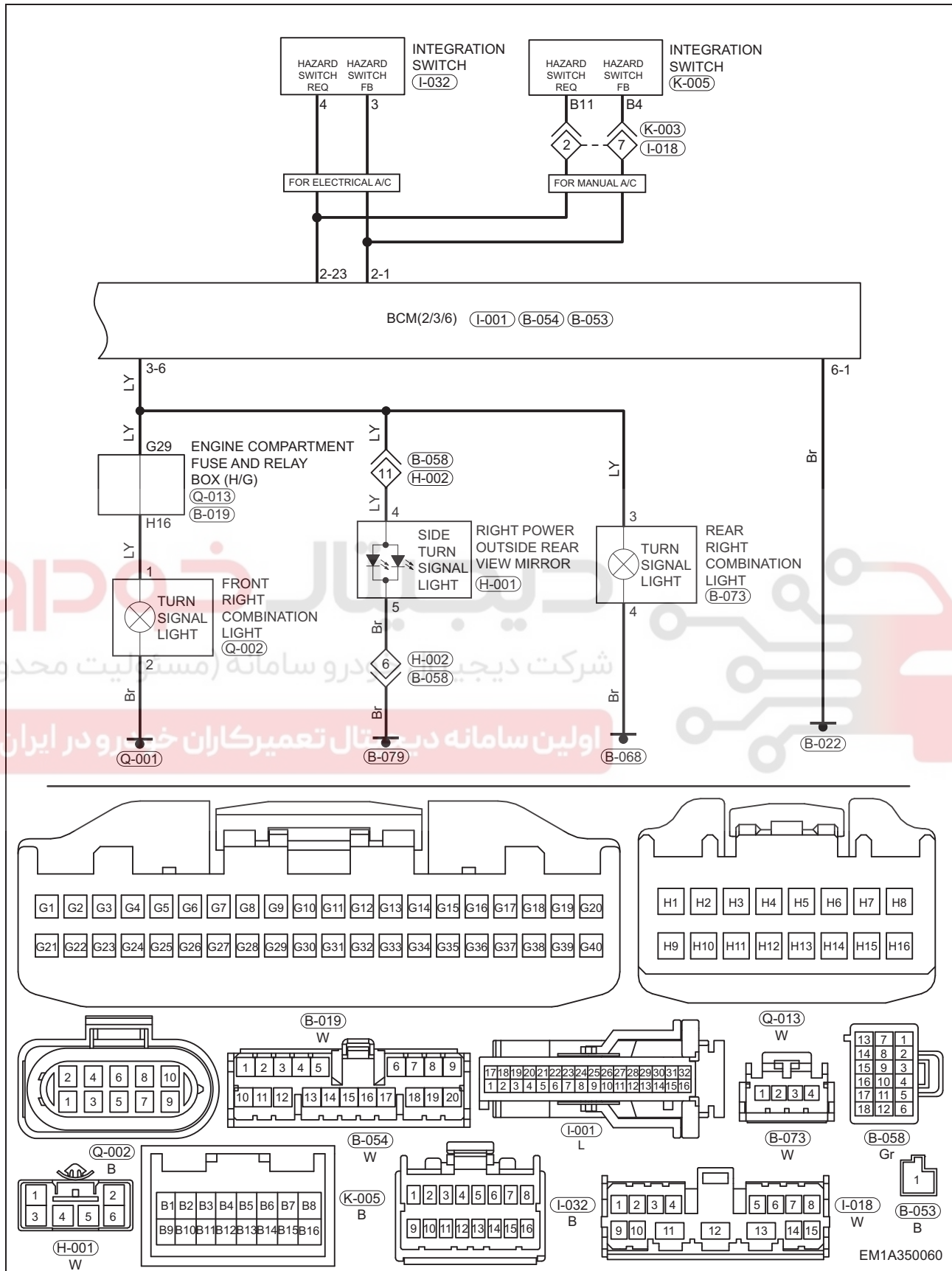
Position Light (Page 3 of 3)



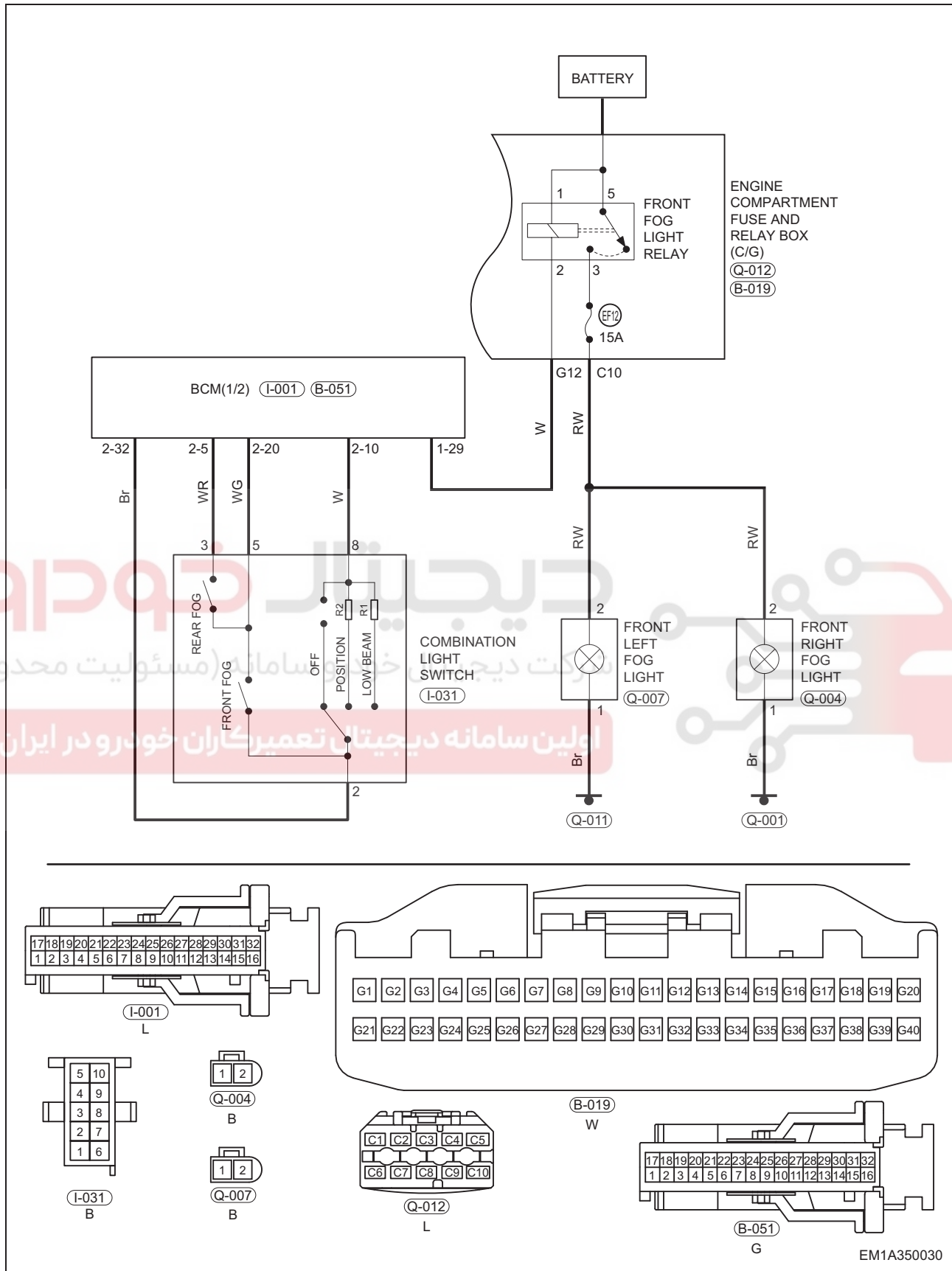
Turn Signal Light (Page 1 of 2)



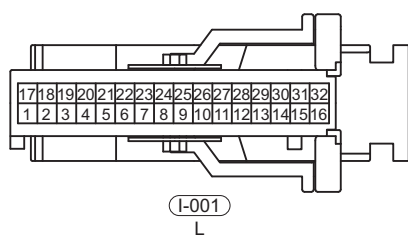
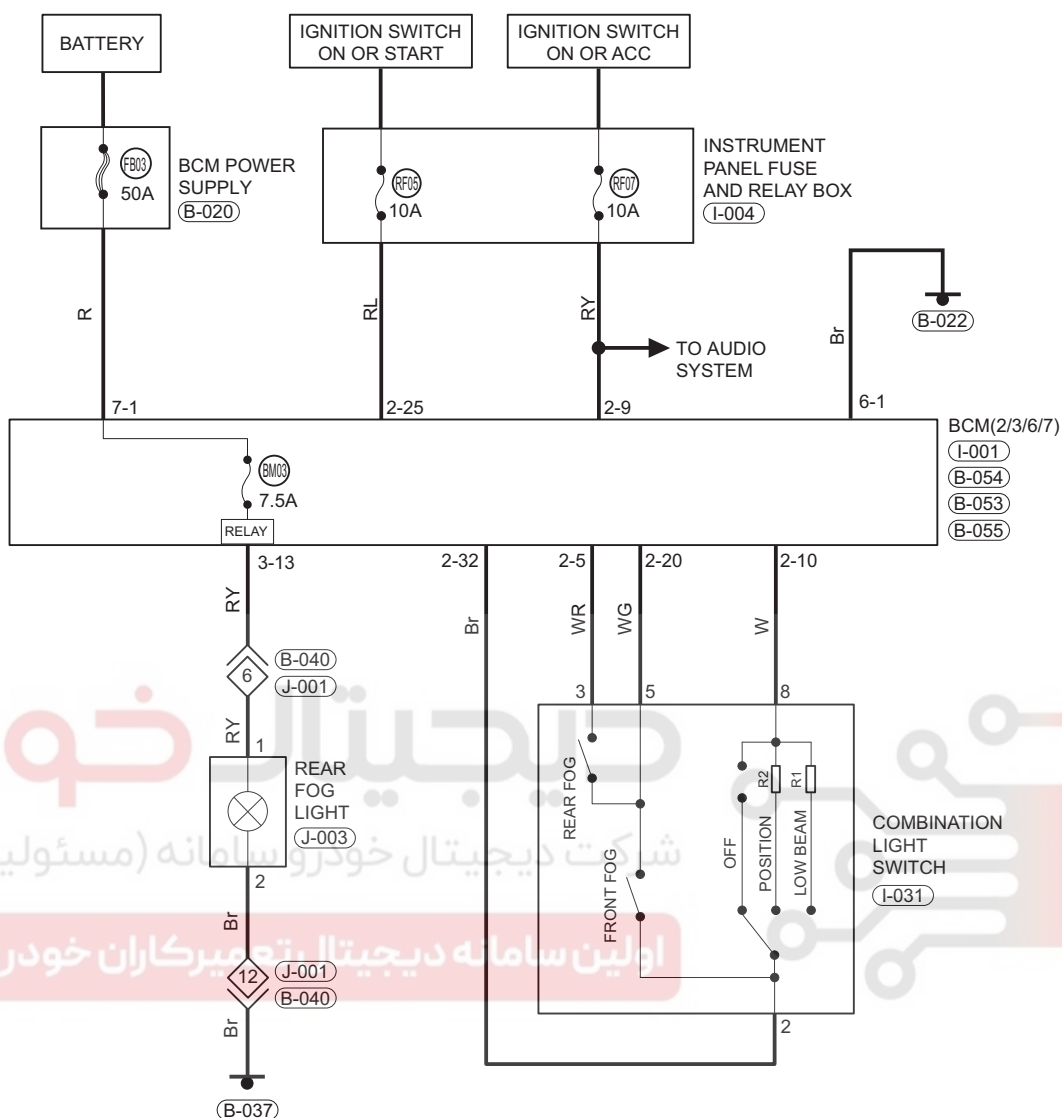
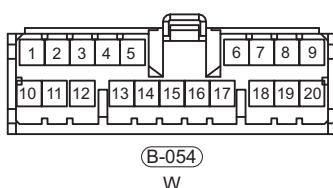
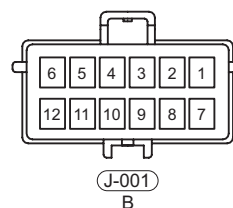
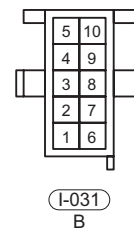
Turn Signal Light (Page 2 of 2)



Fog Light (Page 1 of 2)



Fog Light (Page 2 of 2)

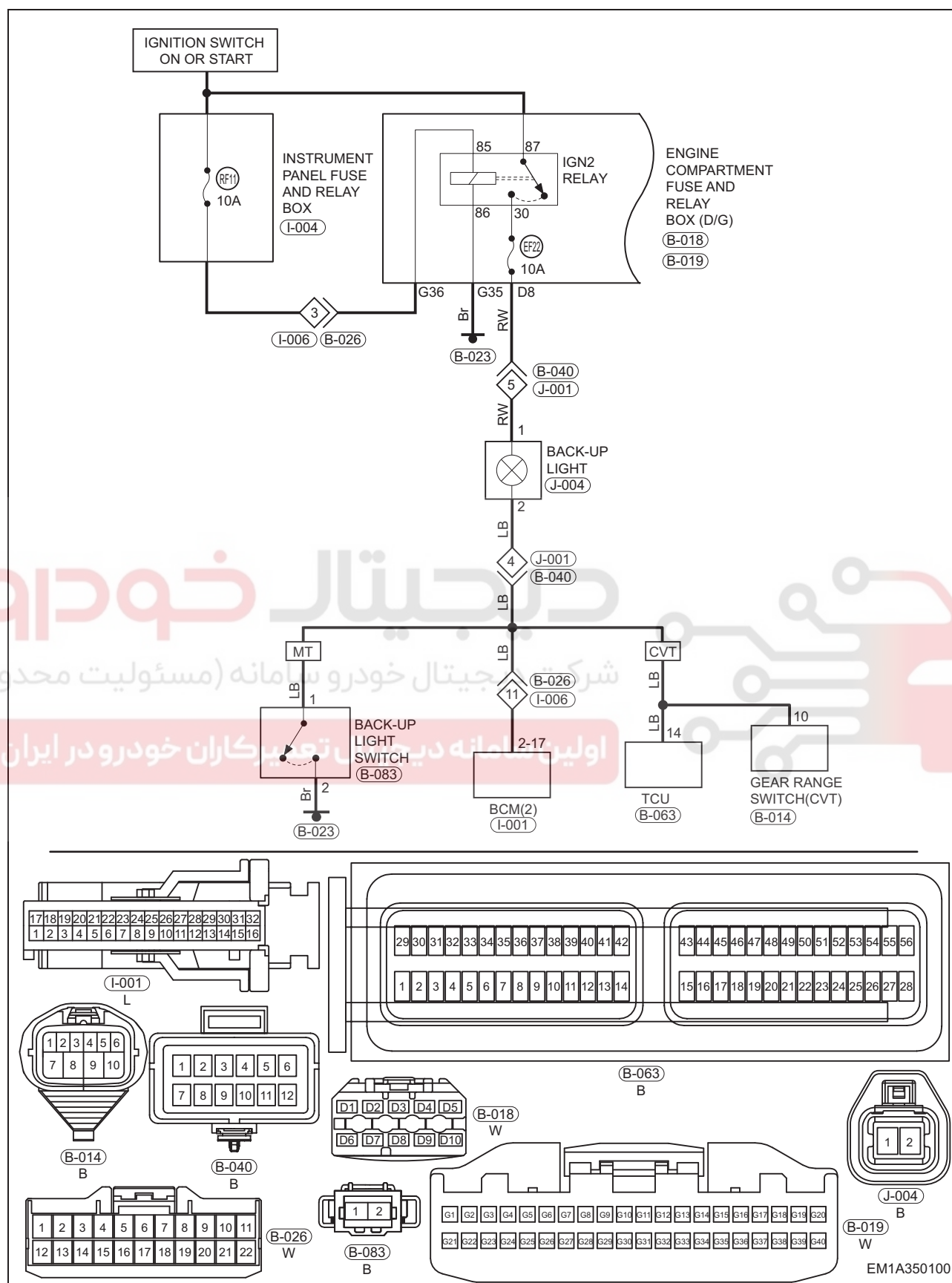
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WJ-001
BI-031
B

B-020

J-003
BB-055
WB-053
B

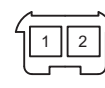
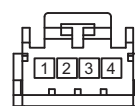
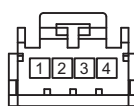
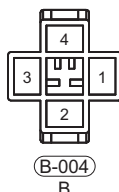
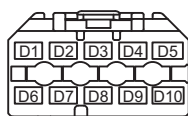
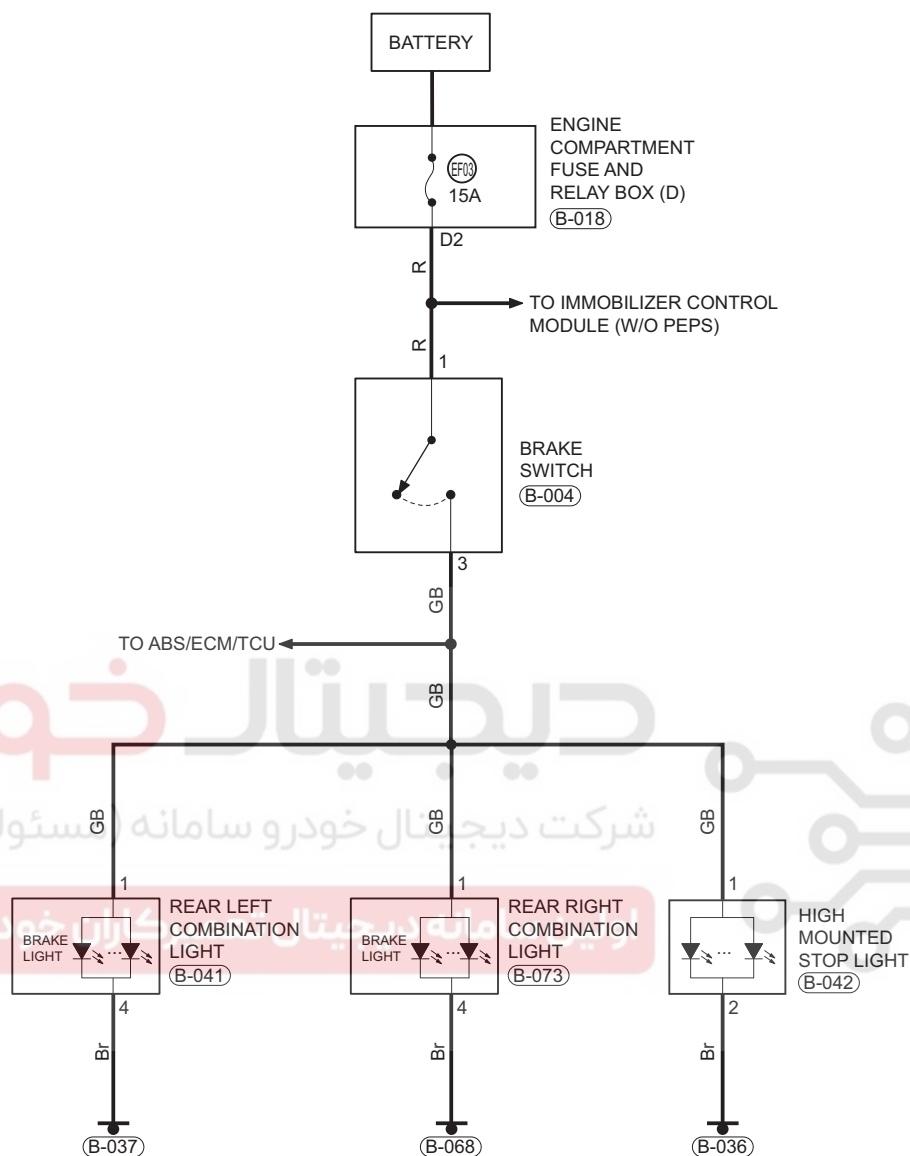
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Back-up Light



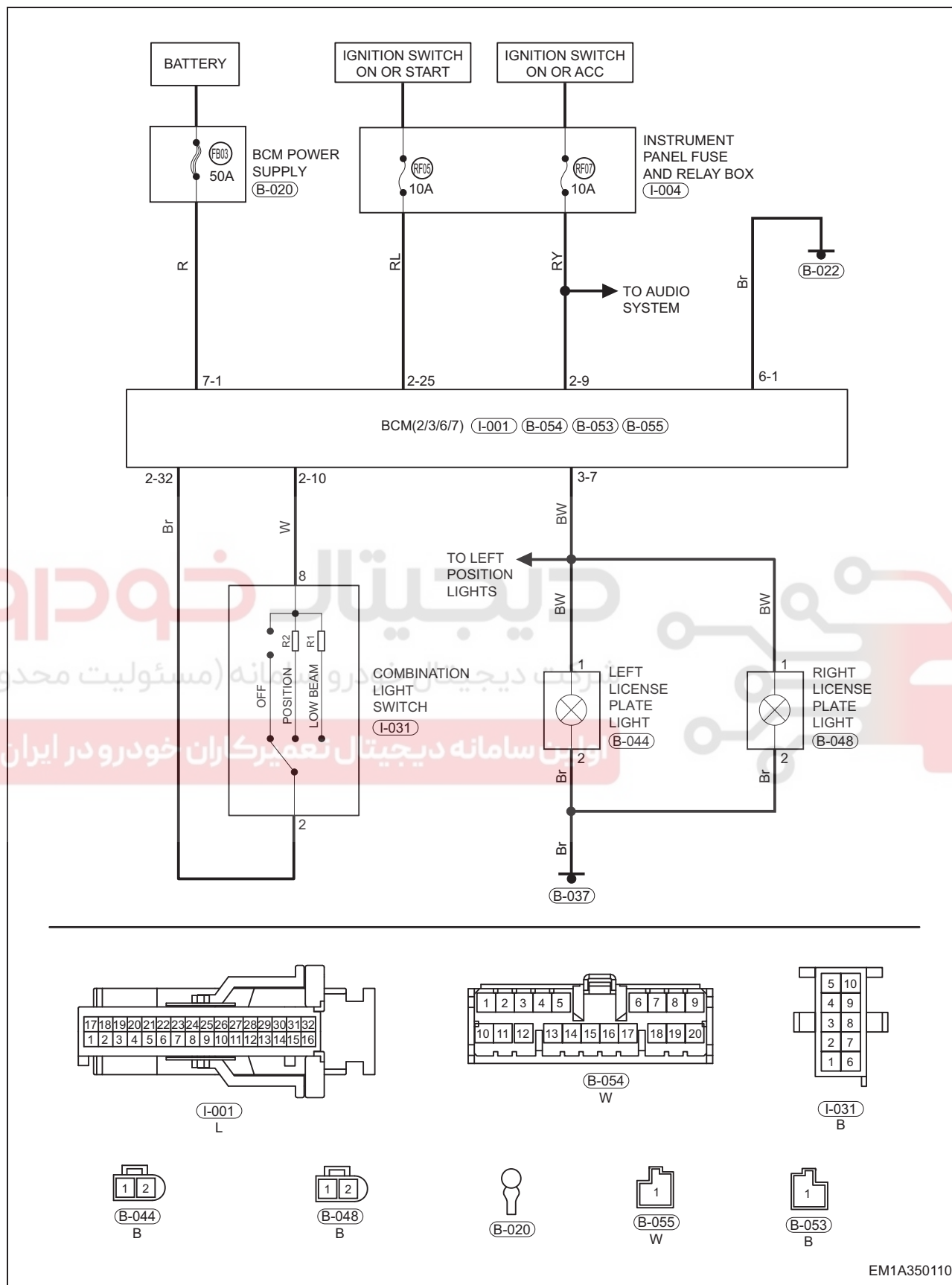
Brake Light

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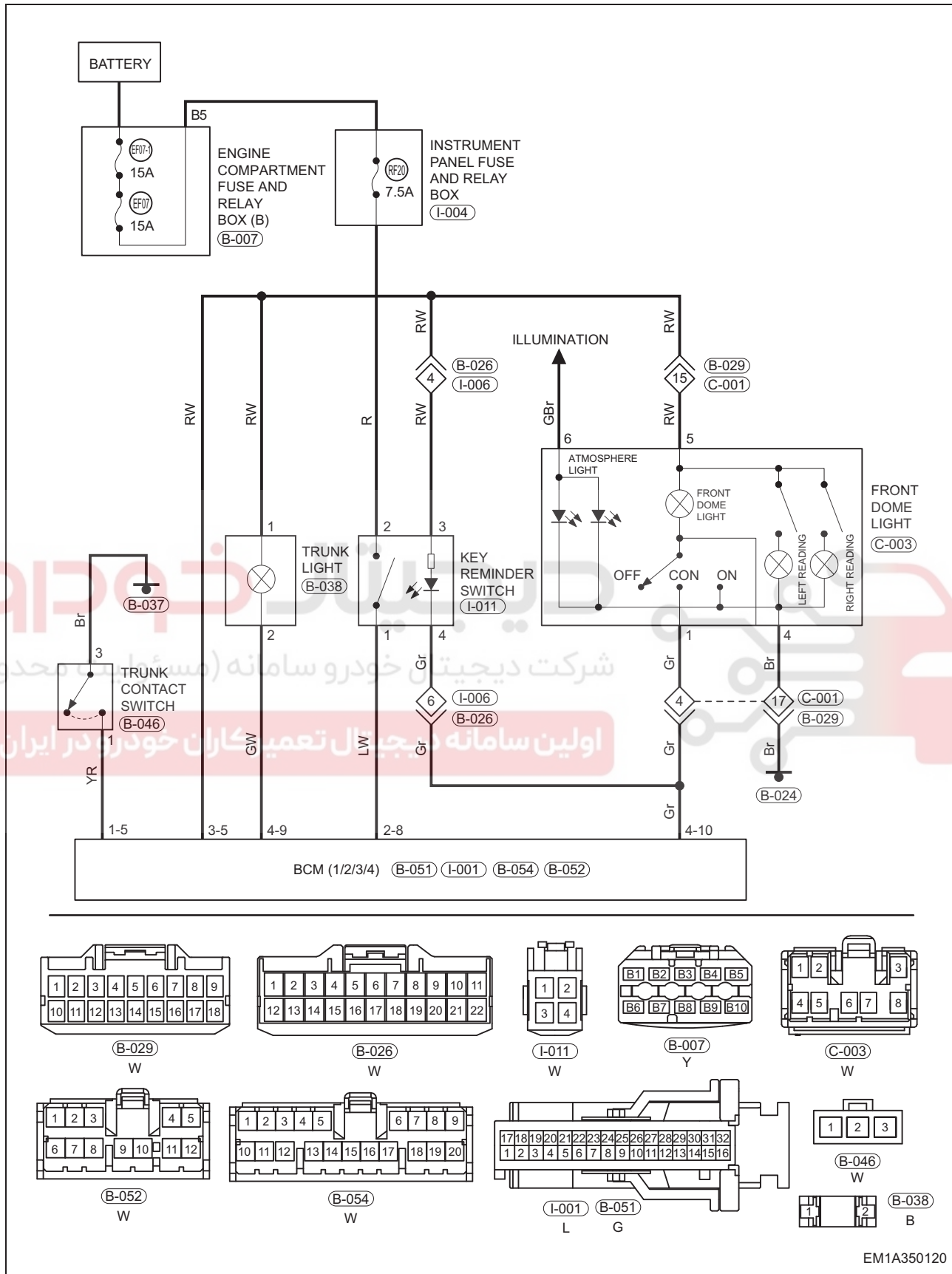


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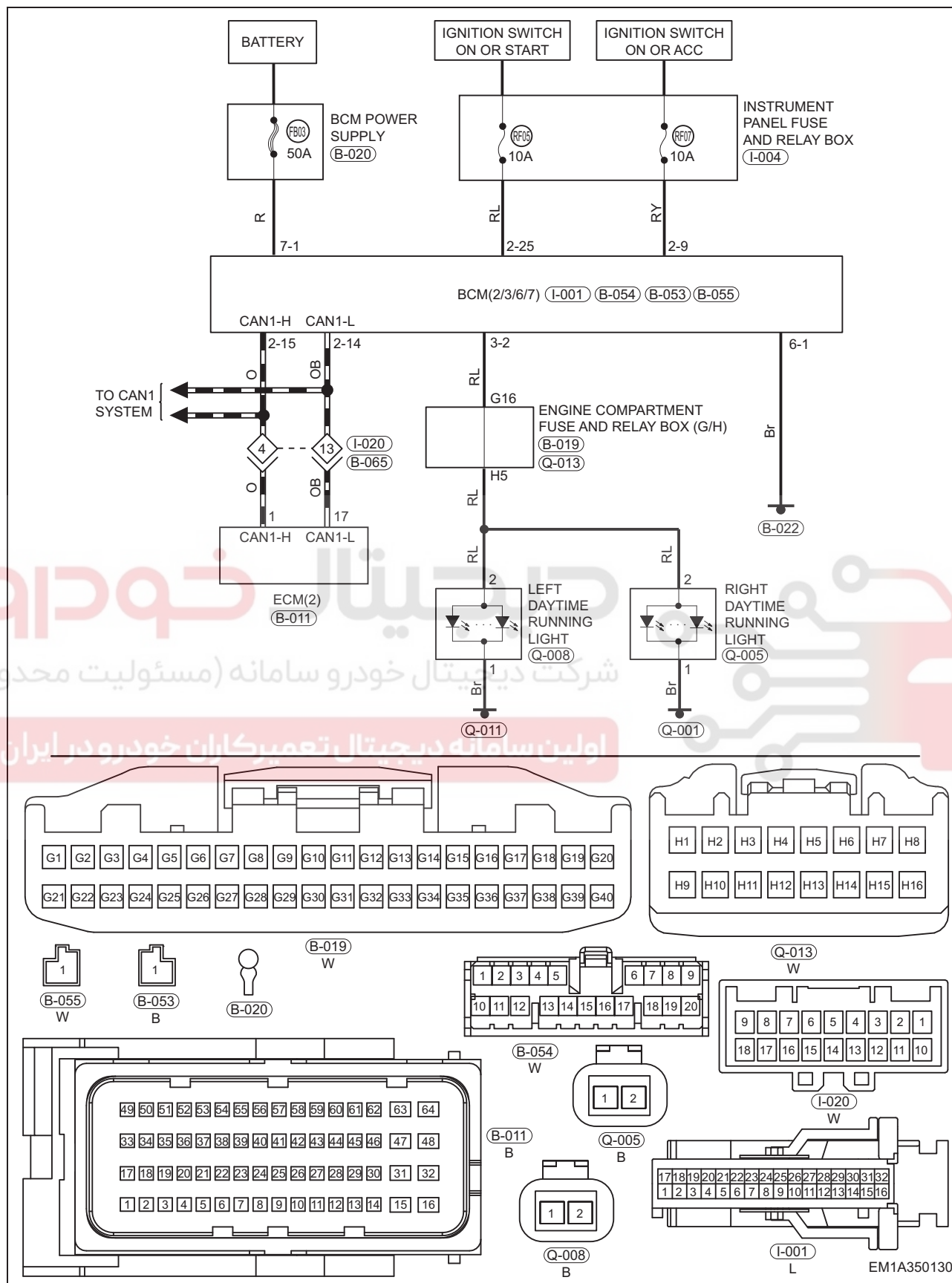
License Plate Light



Interior Dome Light



Daytime Running Light



DIAGNOSIS & TESTING

Problem Symptoms Table

HINT:

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

Position Light, Low Beam Light, High Beam Light

Symptom	Suspected Area	See page
Low beam light does not come on (one side)	Fuse	54-32
	Headlight bulb	-
	Wire harness or connector	-
Low beam lights do not come on (both sides)	Fuse	54-32
	Headlight bulb	-
	Combination light switch assembly	36-83
	Low beam relay	54-32
	Wire harness or connector	-
	Body Control Module (BCM)	-
High beam light does not come on (one side)	Fuse	54-32
	Headlight bulb	-
	Wire harness or connector	-
	Headlight assembly	-
High beam lights do not come on (both sides)	Fuse	54-32
	Headlight bulb	-
	Combination light switch assembly	36-83
	High beam relay	54-32
	Headlight assembly	-
	Wire harness or connector	-
Position light does not come on (both sides)	Body Control Module (BCM)	-
	Position light bulb (all)	-
	Wire harness or connector	-
	Combination light switch assembly	36-83
Position light does not come on (one side)	Body Control Module (BCM)	-
	Position light bulb	-
	Wire harness or connector	-

Daytime Running Light

Symptom	Possible Cause	See page
Daytime running light does not come on	Fuse	54-32
	Daytime running light	-
	Combination light switch assembly	36-83
	Wire harness or connector	-
	Body Control Module (BCM)	-

Rear Fog Light

Symptom	Possible Cause	See page
Rear fog light does not come on	Fuse	-
	Rear fog light bulb	-
	Combination light switch assembly	36-83
	Wire harness or connector	-
	Body Control Module (BCM)	-

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Turn Signal Light and Hazard Warning Light

Symptom	Possible Cause	See page
Hazard warning light and turn signal light do not come on	Bulb	-
	Wire harness or connector	-
	Hazard warning light switch	36-88
	Combination light switch assembly	36-83
	Body Control Module (BCM)	-
Hazard warning light does not come on (turn signal light is normal)	Hazard warning light switch	36-88
	Wire harness or connector	-
Turn signal light does not come on (hazard warning light is normal)	Combination light switch assembly	36-83
	Wire harness or connector	-

License Plate Light

Symptom	Possible Cause	See page
License plate light does not come on	License plate light bulb	-
	Combination light switch assembly	36-83
	Wire harness or connector	-
	Body Control Module (BCM)	-

Luggage Compartment Light

Symptom	Possible Cause	See page
Luggage compartment light does not come on	Luggage compartment light bulb	-
	Wire harness or connector	-
	Body Control Module (BCM)	-

Brake Light

Symptom	Possible Cause	See page
Brake lights do not come on (all)	Fuse	-
	Brake light bulb	-
	Brake light switch	26-23
	Wire harness or connector	-
Only one brake light does not come on	Brake light bulb	-
	Wire harness or connector	-

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Front Dome Light

Symptom	Possible Cause	See page
Front dome light does not come on	Front dome light bulb	-
	Wire harness or connector	-
	Front dome light assembly	36-91
	Body Control Module (BCM)	-

Back-up Light

Symptom	Possible Cause	See page
Back-up lights do not come on (all)	Fuse	54-32
	Relay (for CVT model)	54-32
	Back-up light bulb	-
	Back-up light switch	36-89
	Wire harness or connector	-

DTC Confirmation Procedure

Confirm that battery voltage is over 12 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC).
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in supplemental restraint system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent.

Intermittent DTC Troubleshooting

If malfunction is intermittent, perform the followings:

- Check if connectors are loose.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Monitor X-431 3G diagnostic tester (the latest software) data that is related to this circuit.
- Wiggle related wire harnesses and connectors and observe if signal is interrupt in related circuit.
- If possible, try to duplicate the conditions under which DTC was set.
- Look for the data that has changed or the DTC to reset during the wiggle test.
- Look for broken, bent, protruded or corroded terminals.
- Inspect the mounting areas of combination light switch assembly and each light assembly and so on for damage, foreign matter, etc. that will cause incorrect signals.
- If multiple trouble codes were set, refer to circuit diagrams to look for any common ground circuit or power supply circuit applied to the DTC.
- Refer to any Technical Bulletin that may apply to the malfunction.

Ground Inspection

Ground inspection is very important to the proper operation of electrics and circuits. Ground connections are often exposed to moisture, dirt and corrosive elements. Corrosion (rust) can increase resistance which will change the way in which a circuit works.

Electrical control circuits are very sensitive to proper grounding. A loose or corroded ground can affect electrical control circuit. Operations to check ground connections are as follows:

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

System Diagnostic

1. Description

- a. Lighting system data and Diagnostic Trouble Codes (DTCs) can be read from Data Link Connector (DLC) of vehicle. When system seems to be malfunctioning, use X-431 3G diagnostic tester to check for a malfunction and perform repairs.

2. Check battery voltage

Standard voltage: 11 to 14 V

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

DTC Check/Clear

1. Check DTCs

- a. Connect X-431 3G diagnostic tester to Data Link Connector (DLC).
- b. Turn ignition switch to ON, and turn X-431 3G diagnostic tester on.
- c. Select following menu items to read current malfunctions: M1A/BCM/DTC/Read Current DTC.
- d. Read DTCs by following indications on tester screen.

2. Clear DTCs

- a. Connect X-431 3G diagnostic tester to Data Link Connector (DLC).
- b. Turn ignition switch to ON, and turn X-431 3G diagnostic tester on.
- c. Select following menu items: M1A/BCM/Clear DTC.
- d. Clear DTCs by following directions on tester screen.

36

Data List/Active Test

1. Read the Data List

HINT:

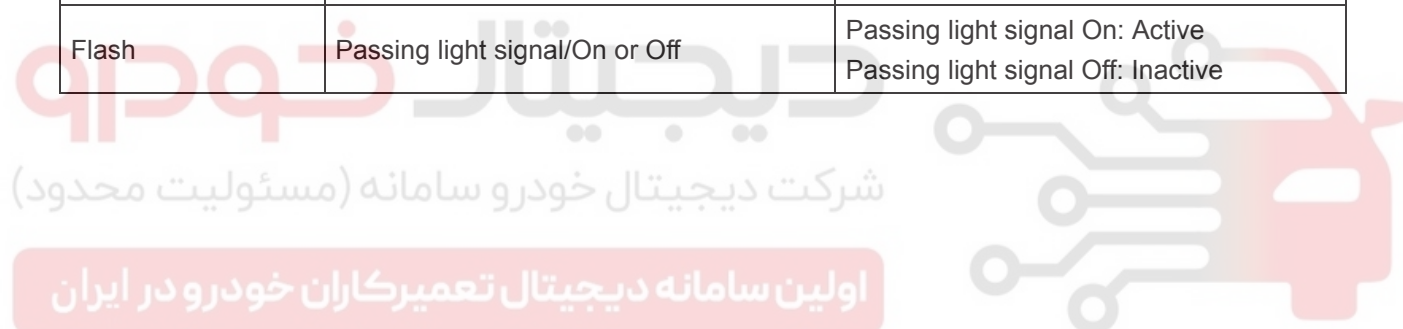
Use X-431 3G diagnostic tester to read Data List allows values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent problems or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

CAUTION

- In the table below, values listed under "Normal Condition" are reference values. Do not depend solely on these reference values, when deciding whether a part is faulty or not.

- a. Connect X-431 3G diagnostic tester to Data Link Connector (DLC).
- b. Turn ignition switch to ON, and turn X-431 3G diagnostic tester on.
- c. Select following menu items: M1A/BCM/Data stream / Input status (Light).
- d. Read Data List according to display on tester.

Tester Display	Measurement Item/Range	Normal Condition
Left Hand Turn Light	Left turn signal/On or Off	Left turn signal On: Active Left turn signal Off: Inactive
Right Hand Turn Light	Right turn signal/On or Off	Right turn signal On: Active Right turn signal Off: Inactive
Front Fog Light	Front fog light signal/On or Off	Front fog light signal On: Active Front fog light signal Off: Inactive
Rear Fog Light	Rear fog light signal/On or Off	Rear fog light signal On: Active Rear fog light signal Off: Inactive
Position Light	Position light signal/On or Off	Position light signal On: Active Position light signal Off: Inactive
Low Beam	Low beam light signal/On or Off	Low beam light signal On: Active Low beam light signal Off: Inactive
High Beam	High beam light signal/On or Off	High beam light signal On: Active High beam light signal Off: Inactive
Hazard	Hazard warning light signal/On or Off	Hazard warning light signal On: Active Hazard warning light signal Off: Inactive
Flash	Passing light signal/On or Off	Passing light signal On: Active Passing light signal Off: Inactive



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2. Perform the Active Test

HINT:

Use X-431 3G diagnostic tester to perform Active Tests allows items to be tested without removing any parts. This non-intrusive functional inspection can be very useful because intermittent problems may be discovered before parts or wiring is disturbed. Perform the Active Test early in troubleshooting is one way to save diagnostic time. Data List information can be displayed when performing Active Test.

- a. Connect X-431 3G diagnostic tester to Data Link Connector (DLC).
- b. Turn ignition switch to ON, and turn X-431 3G diagnostic tester on.
- c. Select following menu items: M1A/BCM/Actuation Test.
- d. Perform Active Test according to display on tester.

Tester Display	Control Range
Left Hand Turn Light	Active/Inactive
Right Hand Turn Light	Active/Inactive
Position Light	Active/Inactive
Low Beam	Active/Inactive
High Beam	Active/Inactive
Front Fog Light	Active/Inactive
Rear Fog Light	Active/Inactive
Daytime Running Light	Active/Inactive
Dome Lamp	Active/Inactive
Security Indicator	Active/Inactive
Hazard	Active/Inactive
Trunk Lamp	Active/Inactive

Diagnosis Procedure

HINT:

Perform troubleshooting according to the procedures below.

1 Vehicle brought to workshop

NEXT

2 Check battery voltage

Standard voltage: 11 to 14 V

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

NEXT

3 Check for DTCs (current DTC and history DTC)

36

DTC occurs

For current DTC, go to step 4

No DTC

For history DTC, go to step 5

4 Diagnostic Trouble Code (DTC) Chart

NEXT

5 Circuit inspection

NEXT

6 Repair or replace

NEXT

7 Clear DTCs (current DTC and history DTC)

NEXT

36 - LIGHTING SYSTEM

8	Check for DTCs (current DTC and history DTC)
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**DTC
output**

Go to step 4

**No
DTC
output**

Go to next step

9	Confirm test
----------	---------------------

NEXT

10	End
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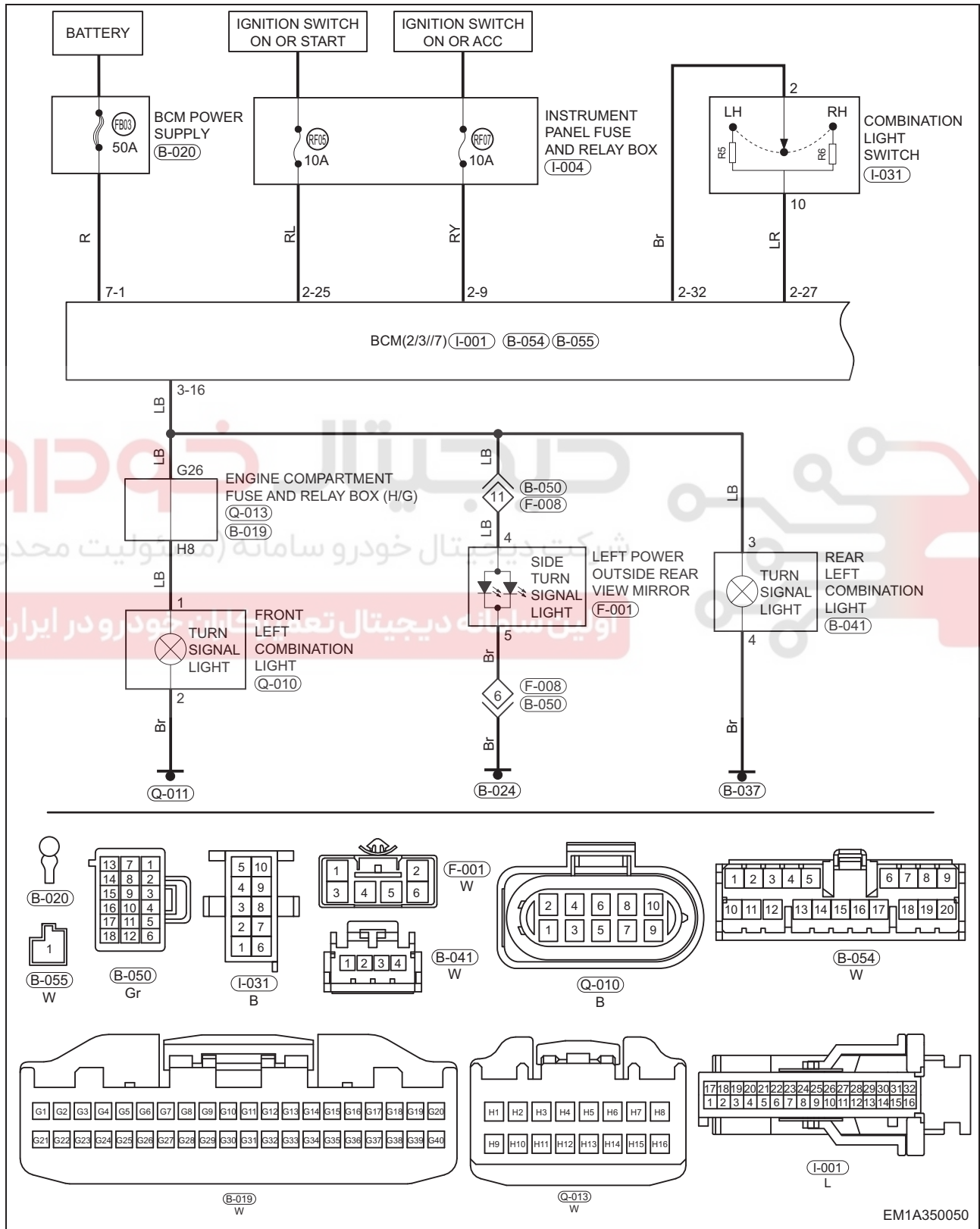
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Diagnostic Trouble Code (DTC) Chart

DTC	DTC Definition
B1001-11	Left Side Turn Lamp Control Circuit Circuit Short to Ground
B1001-13	Left Side Turn Lamp Control Circuit Circuit Open
B1002-11	Right Side Turn Lamp Control Circuit Short to Ground
B1002-13	Right Side Turn Lamp Control Circuit Open
B1003-11	Left Park Light Output Control Circuit Short to Ground
B1003-13	Left Park Light Output Control Circuit Open
B1004-11	Right Park Light Output Control Circuit Short to Ground
B1004-13	Right Park Light Output Control Circuit Open
B1008-13	Rear Fog Control Circuit Open
B1008-71	Rear Fog Control Circuit Actuator Stuck

DTC	B1001-11	Left Side Turn Lamp Control Circuit Circuit Short to Ground
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DTC	B1001-13	Left Side Turn Lamp Control Circuit Circuit Open
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DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1001-18	Left Side Turn Lamp Control Circuit Circuit Short to Ground	Ignition switch ON	- Wire harness or connector - BCM
B1001-19	Left Side Turn Lamp Control Circuit Circuit Open		

 CAUTION

- When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

DTC Confirmation Procedure

Confirm that battery voltage is normal before performing following procedures.

- 36**
- Turn ignition switch to LOCK.
 - Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC).
 - Turn ignition switch to ON.
 - Use X-431 3G diagnostic tester to record and clear DTCs stored in PEPS system.
 - Turn ignition switch to LOCK and wait for a few seconds.
 - Use X-431 3G diagnostic tester to read DTCs.
 - If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
 - If DTC is not detected, malfunction indicated by DTC is intermittent (See page 36-25).

Diagnosis Procedure**1 Check left turn signal light bulb**

- Turn off all electrical equipment and the ignition switch.
- Disconnect the negative battery cable.
- Remove left turn signal light bulb, and check if left turn signal light bulb filament is blown.

NG

Replace left turn signal light bulb

OK

2 Check connector and wire harness

- Check ground points B-024, B-037 and Q-011 of left turn signal light (See page 54-24).
- Disconnect BCM connector B-054, engine compartment fuse and relay box connectors B-019 and Q-013.
- Disconnect left headlight connector Q-010, left power outside rear view mirror connector F-001, rear left combination light connector B-041.
- Disconnect connector F-008/B-050 between front left door wire harness and body wire harness.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.

g. Check if related connector pins are in good condition.

NG

Repair or replace related connector or wire harness

OK

3

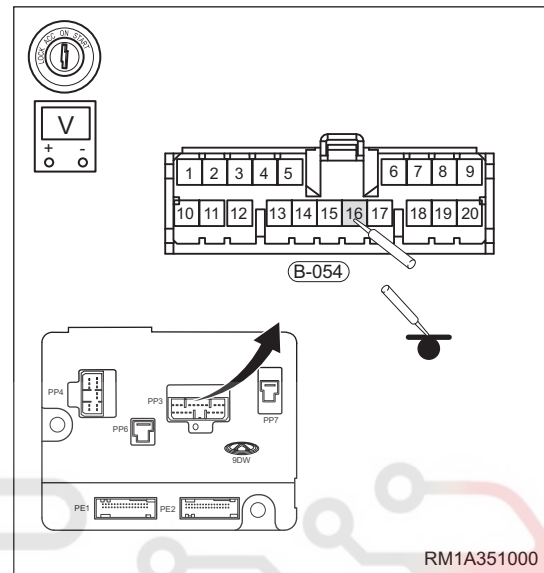
Check supply voltage of left turn signal light

- Connect the negative battery cable.
- Turn ignition switch to ON, and turn combination light switch to ON position of left turn signal light.
- Check voltage between connector B-054 and body ground.

Multimeter Connection	Condition	Specified Condition
B-054 (16) - Body ground	Ignition switch ON	Changes between 0 and 12 V

NG

Go to step 6



36

OK

4

Check left turn signal light control circuit

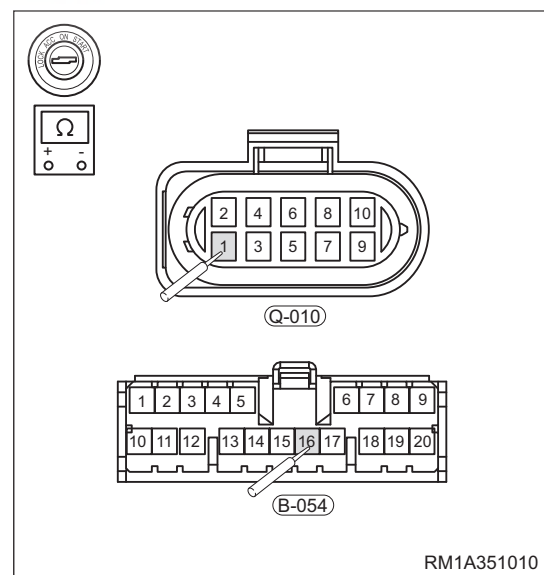
- Disconnect the negative battery cable.
- Check wire harness between BCM connector B-054 and left headlight connector Q-010.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (16) - Q-010 (1)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (16) or Q-010 (1) - Body ground	Always	No continuity
B-054 (16) or Q-010 (1) - Battery positive	Always	No continuity



36 - LIGHTING SYSTEM

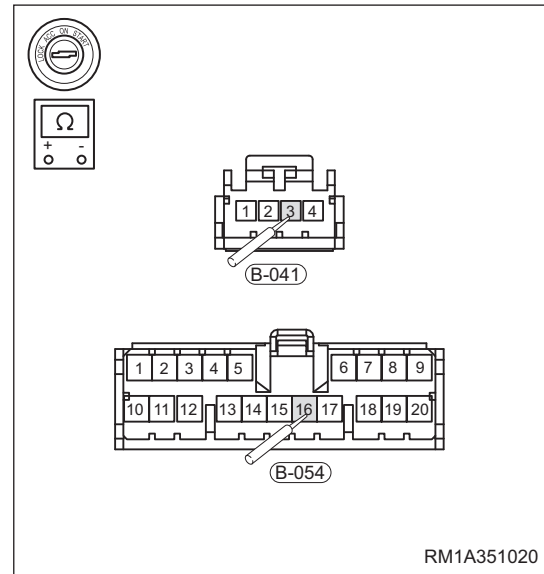
- c. Check wire harness between BCM connector B-054 and rear left combination light connector B-041.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (16) - B-041 (3)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (16) or B-041 (3) - Body ground	Always	No continuity
B-054 (16) or B-041 (3) - Battery positive	Always	No continuity



36

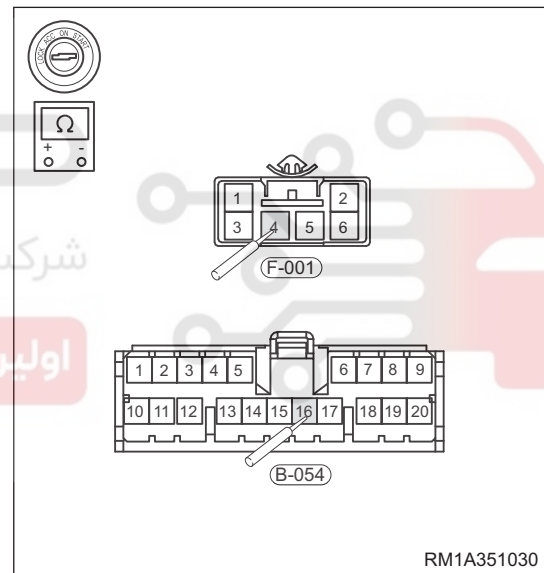
- d. Check wire harness between BCM connector B-054 and left power outside rear view mirror connector F-001.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (16) - F-001 (4)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (16) or F-001 (4) - Body ground	Always	No continuity
B-054 (16) or F-001 (4) - Battery positive	Always	No continuity



NG

Repair or replace related connector or wire harness

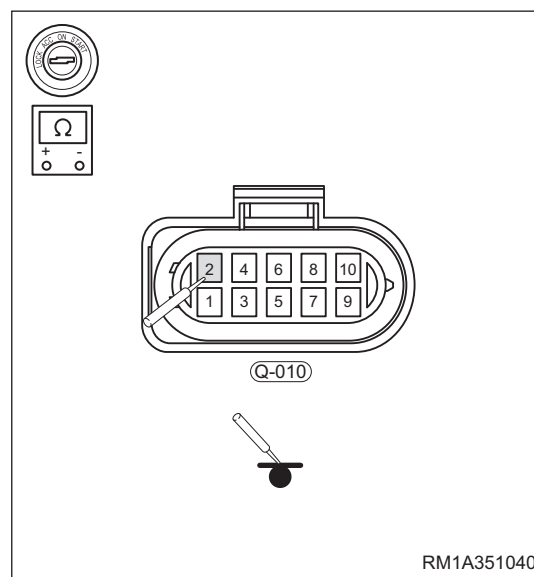
OK

5 Check left turn signal light ground wire

- a. Check wire harness between left headlight connector Q-010 and body ground.

Check for Open

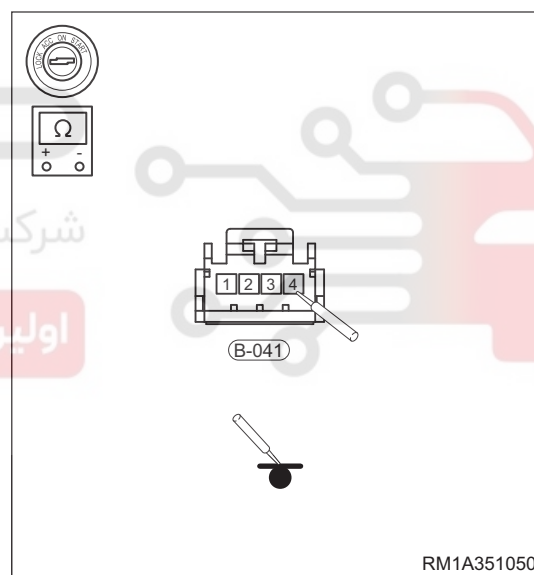
Multimeter Connection	Condition	Specified Condition
Q-010 (2) - Body ground	Always	Continuity



- b. Check wire harness between rear left combination light connector B-041 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-041 (4) - Body ground	Always	Continuity



36 - LIGHTING SYSTEM

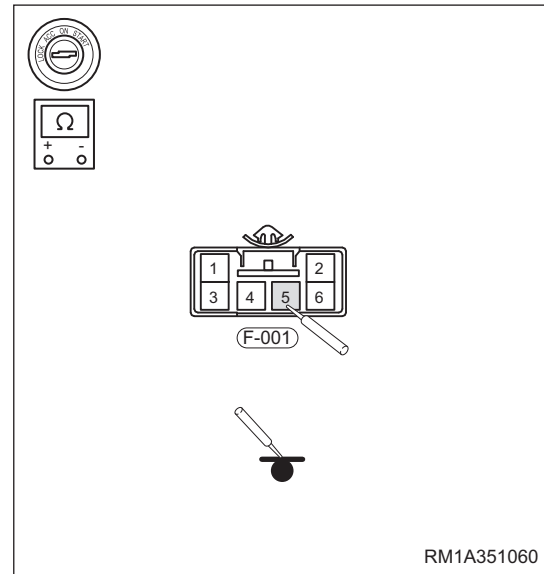
- c. Check wire harness between left power outside rear view mirror connector F-001 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
F-001 (5) - Body ground	Always	Continuity

NG

Repair or replace related connector or wire harness

**OK**

36

6**Replace BCM**

- Replace the BCM.
- Connect the related wire harness connectors.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Connect X-431 3G diagnostic tester to Data Link Connector, check if any DTC is detected.

OK

System operates normally

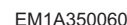
DTC	B1002-11	Right Side Turn Lamp Control Circuit Short to Ground
DTC	B1002-13	Right Side Turn Lamp Control Circuit Open

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران





DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1002-11	Right Side Turn Lamp Control Circuit Short to Ground	Ignition switch ON	- Wire harness or connector - BCM
B1002-13	Right Side Turn Lamp Control Circuit Open		

CAUTION

- When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

DTC Confirmation Procedure

Confirm that battery voltage is normal before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC).
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in PEPS system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Use X-431 3G diagnostic tester to read DTCs.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 36-25](#)).

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Diagnosis Procedure**1 Check right turn signal light bulb**

- Turn off all electrical equipment and the ignition switch.
- Disconnect the negative battery cable.
- Remove right turn signal light bulb, and check if right turn signal light bulb filament is blown.

NG

Replace right turn signal light bulb

OK

2 Check connector and wire harness

- Check ground points B-079, B-068 and Q-001 of right turn signal light ([See page 54-24](#)).
- Disconnect BCM connector B-054, engine compartment fuse and relay box connectors B-019 and Q-013.
- Disconnect right headlight connector Q-002, right power outside rear view mirror connector H-001, rear right combination light connector B-073.
- Disconnect connector H-002/B-058 between front right door wire harness and body wire harness.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector pins are in good condition.

NG

Repair or replace related connector or wire harness

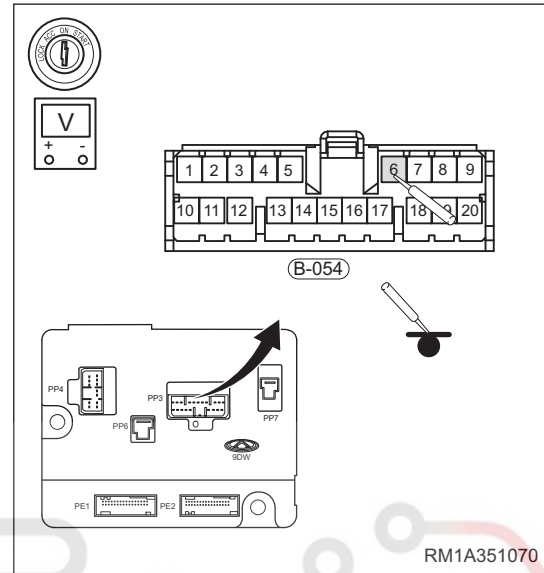
OK

3

Check supply voltage of right turn signal light

- Connect the negative battery cable.
- Turn ignition switch to ON, and turn combination light switch to ON position of right turn signal light.
- Check voltage between connector B-054 and body ground.

Multimeter Connection	Condition	Specified Condition
B-054 (6) - Body ground	Ignition switch ON	Changes between 0 and 12 V



OK

36

NG

Go to step 6

4

Check right turn signal light control circuit

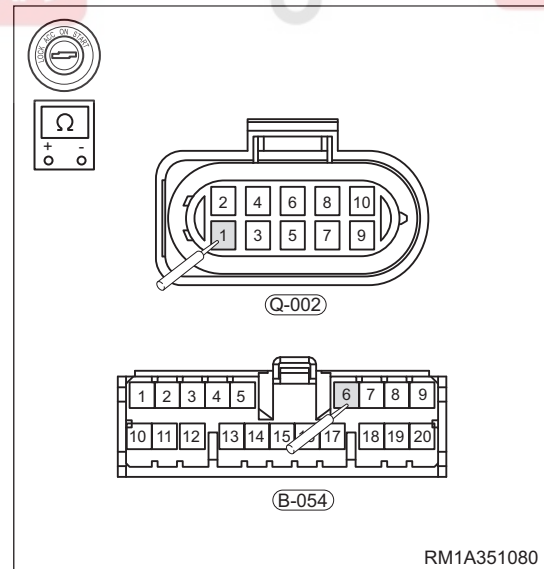
- Disconnect the negative battery cable.
- Check wire harness between BCM connector B-054 and right headlight connector Q-002.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (6) - Q-002 (1)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (6) or Q-002 (1) - Body ground	Always	No continuity
B-054 (6) or Q-002 (1) - Battery positive	Always	No continuity



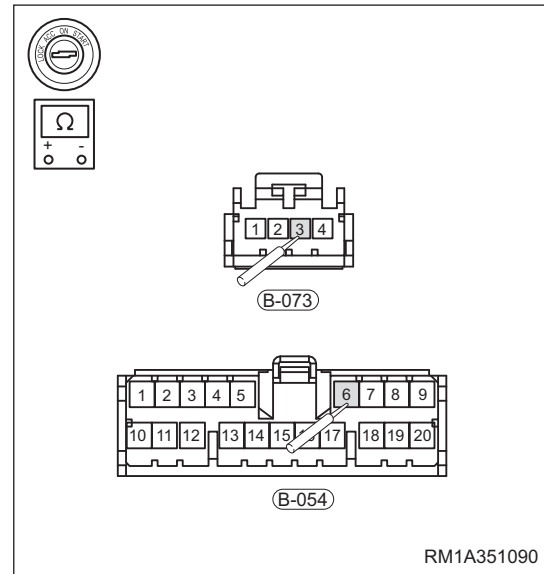
- c. Check wire harness between BCM connector B-054 and rear right combination light connector B-073.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (6) - B-073 (3)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (6) or B-073 (3) - Body ground	Always	No continuity
B-054 (6) or B-073 (3) - Battery positive	Always	No continuity



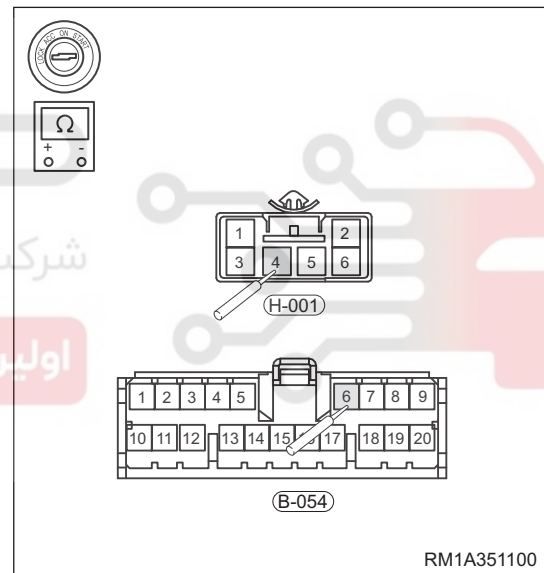
- d. Check wire harness between BCM connector B-054 and right power outside rear view mirror connector H-001.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (6) - H-001 (4)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (6) or H-001 (4) - Body ground	Always	No continuity
B-054 (6) or H-001 (4) - Battery positive	Always	No continuity



NG

Repair or replace related connector or wire harness

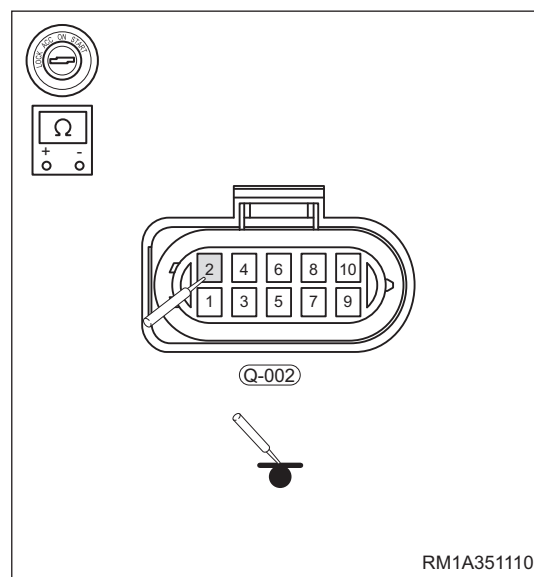
OK

5 Check right turn signal light ground wire

- a. Check wire harness between right headlight connector Q-002 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
Q-002 (2) - Body ground	Always	Continuity

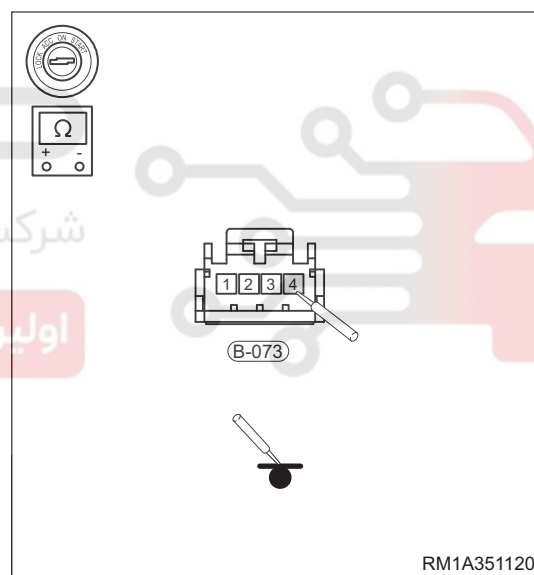


36

- b. Check wire harness between rear right combination light connector B-073 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-073 (4) - Body ground	Always	Continuity



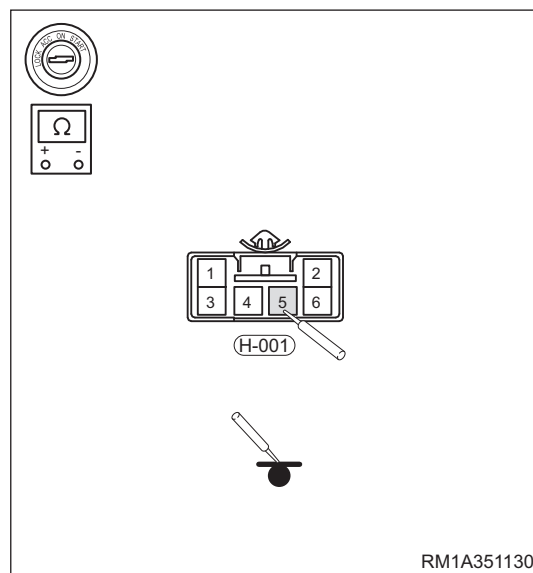
- c. Check wire harness between right power outside rear view mirror connector H-001 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
H-001 (5) - Body ground	Always	Continuity

NG

Repair or replace related connector or wire harness



OK

6

Replace BCM

36

- Replace the BCM.
- Connect the related wire harness connectors.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Connect X-431 3G diagnostic tester to Data Link Connector, check if any DTC is detected.

OK

System operates normally

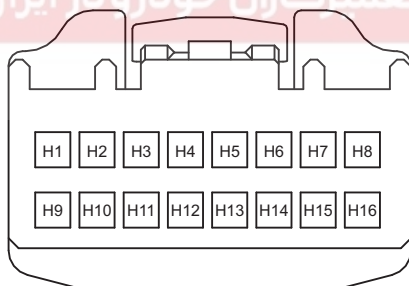
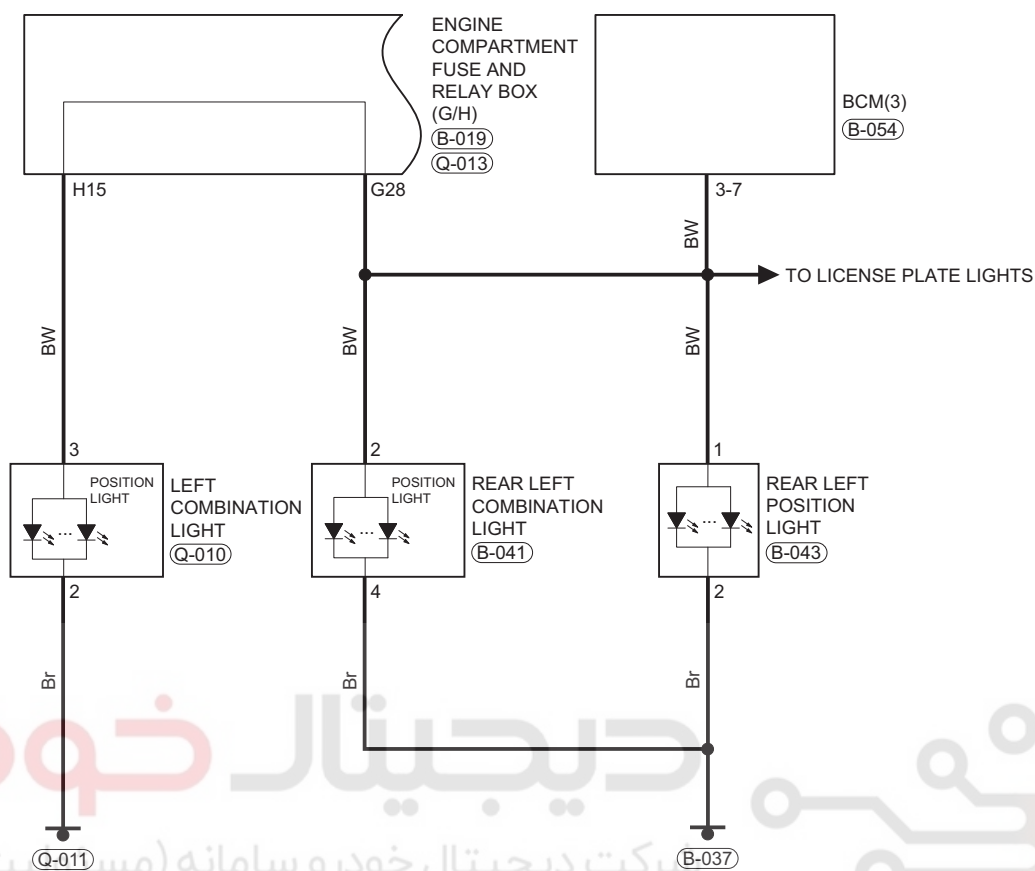
DTC	B1003-11	Left Park Light Output Control Circuit Short to Ground
DTC	B1003-13	Left Park Light Output Control Circuit Open

دیجیتال خودرو

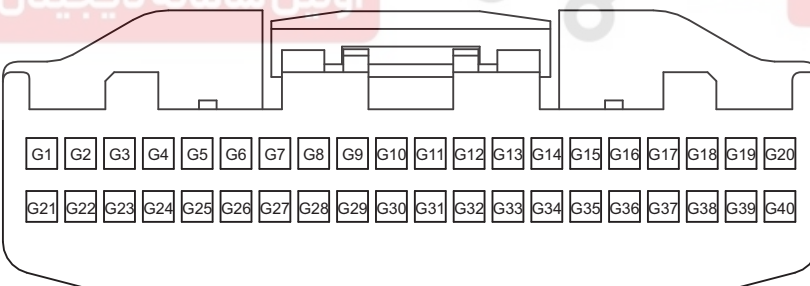
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

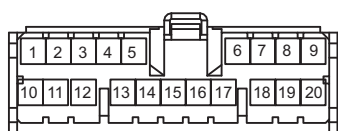




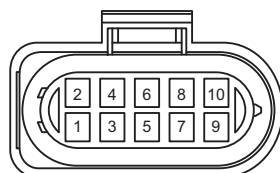
(Q-013)
W



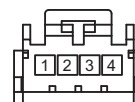
(B-019)
W



(B-054)
W



(Q-010)
B



(B-041)
W



(B-043)
B

EM1A350070

36 - LIGHTING SYSTEM

DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1003-11	Left Park Light Output Control Circuit Short to Ground	Ignition switch ON	- Wire harness or connector - BCM
B1003-13	Left Park Light Output Control Circuit Open		

 CAUTION

- When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

DTC Confirmation Procedure

Confirm that battery voltage is normal before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC).
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in PEPS system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Use X-431 3G diagnostic tester to read DTCs.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent (See page 36-25).

Diagnosis Procedure

1	Check left position light
----------	----------------------------------

- Turn ignition switch to ON.
- Rotate knob of combination light switch to ON position of position light, and check if left position light comes on.
- Remove front left position light bulb, and check if front left position light bulb filament is blown.

NG

Replace rear left combination light or front left position light bulb

OK

2	Check connector and wire harness
----------	---

- Turn ignition switch to LOCK and disconnect negative battery cable.
- Check ground points B-037 and Q-011 of left position light (See page 54-24).
- Disconnect BCM connector B-054, engine compartment fuse and relay box connectors B-019 and Q-013.
- Disconnect front left combination light connector Q-010, rear left combination light connector B-041 and rear left position light connector B-043.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.

g. Check if related connector pins are in good condition.

NG

Repair or replace related connector or wire harness

OK

3

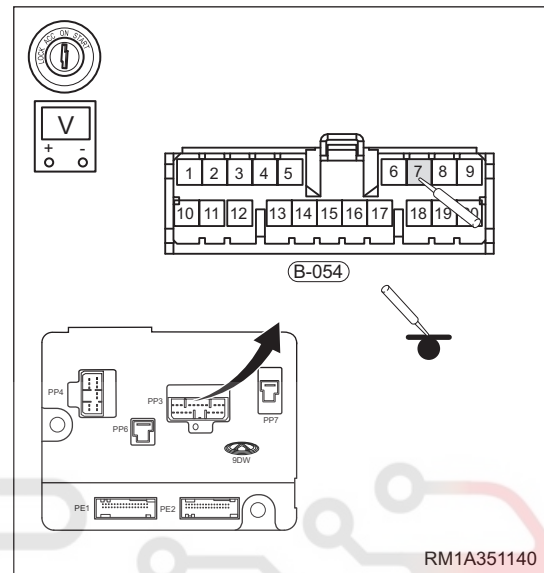
Check supply voltage of left position light

- Connect negative battery cable and turn ignition switch to ON.
- Rotate knob of combination light switch to ON position of position light.
- Check voltage between connector B-054 and body ground.

Multimeter Connection	Condition	Specified Condition
B-054 (7) - Body ground	Ignition switch ON	12 V

NG

Go to step 6



OK

4

Check left position light control circuit

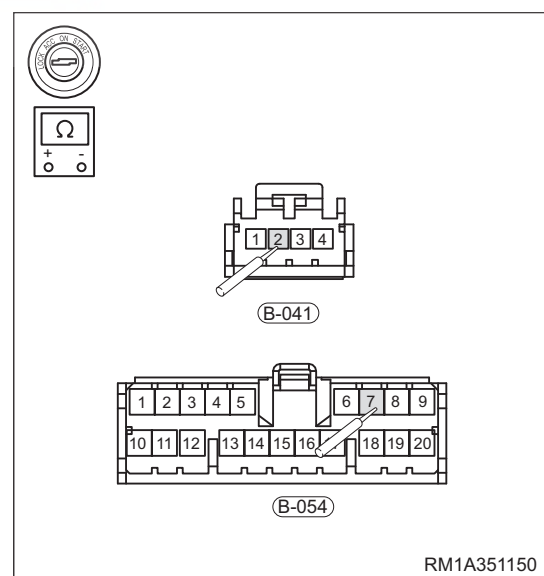
- Turn ignition switch to LOCK and disconnect negative battery cable.
- Check wire harness between BCM connector B-054 and rear left combination light (fixed part) connector B-041.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (7) - B-041 (2)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (7) or B-041 (2) - Body ground	Always	No continuity
B-054 (7) or B-041 (2) - Battery positive	Always	No continuity



36 - LIGHTING SYSTEM

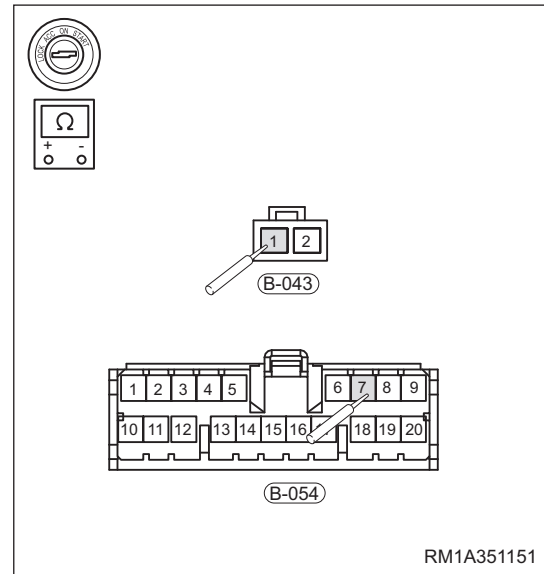
- c. Check wire harness between BCM connector B-054 and rear left combination light (movable part) connector B-043.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (7) - B-043 (1)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (7) or B-043 (1) - Body ground	Always	No continuity
B-054 (7) or B-043 (1) - Battery positive	Always	No continuity



36

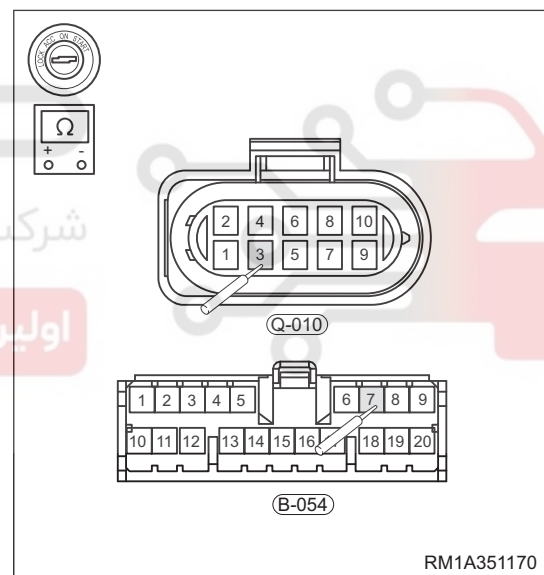
- d. Check wire harness between BCM connector B-054 and left headlight connector Q-010.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (7) - Q-010 (3)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (7) or Q-010 (3) - Body ground	Always	No continuity
B-054 (7) or Q-010 (3) - Battery positive	Always	No continuity



NG

Repair or replace related connector or wire harness

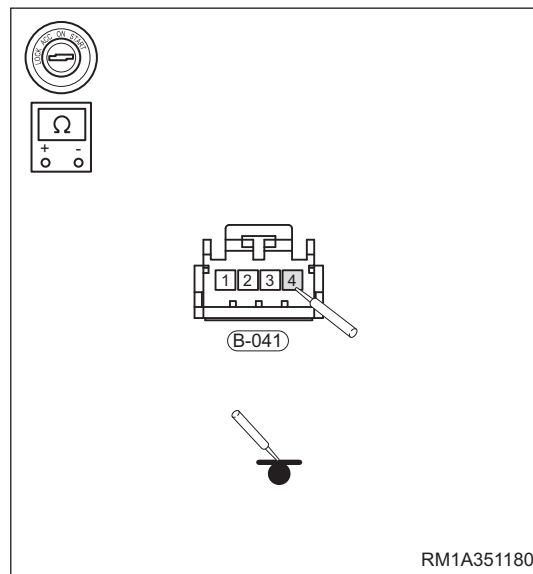
OK

5 Check left position light ground wire

- a. Check wire harness between rear left combination light (fixed part) connector B-041 and body ground.

Check for Open

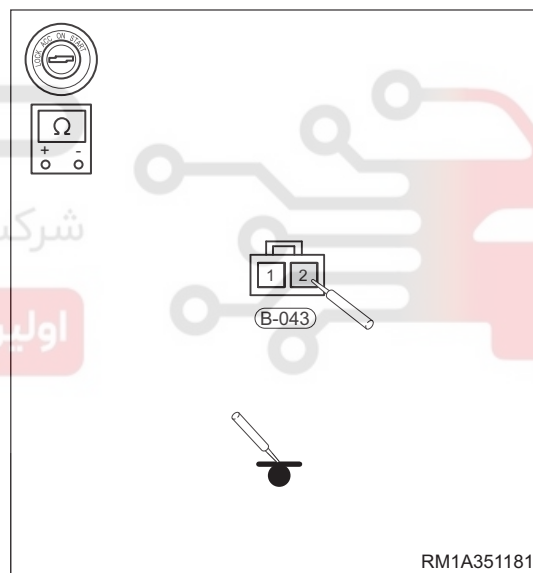
Multimeter Connection	Condition	Specified Condition
B-041 (4) - Body ground	Always	Continuity



- b. Check wire harness between rear left combination light (movable part) connector B-043 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-043 (2) - Body ground	Always	Continuity

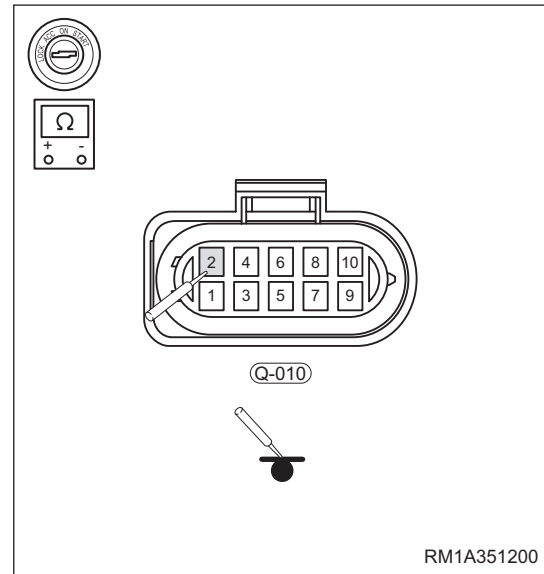


36 - LIGHTING SYSTEM

- c. Check wire harness between left headlight connector Q-010 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
Q-010 (2) - Body ground	Always	Continuity

NG**Repair or replace related connector or wire harness****OK****36****6****Replace BCM**

- Replace the BCM.
- Connect the related wire harness connectors.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Connect X-431 3G diagnostic tester to Data Link Connector, check if any DTC is detected.

OK**System operates normally**

DTC	B1004-11	Right Park Light Output Control Circuit Short to Ground
DTC	B1004-13	Right Park Light Output Control Circuit Open

دیجیتال خودرو

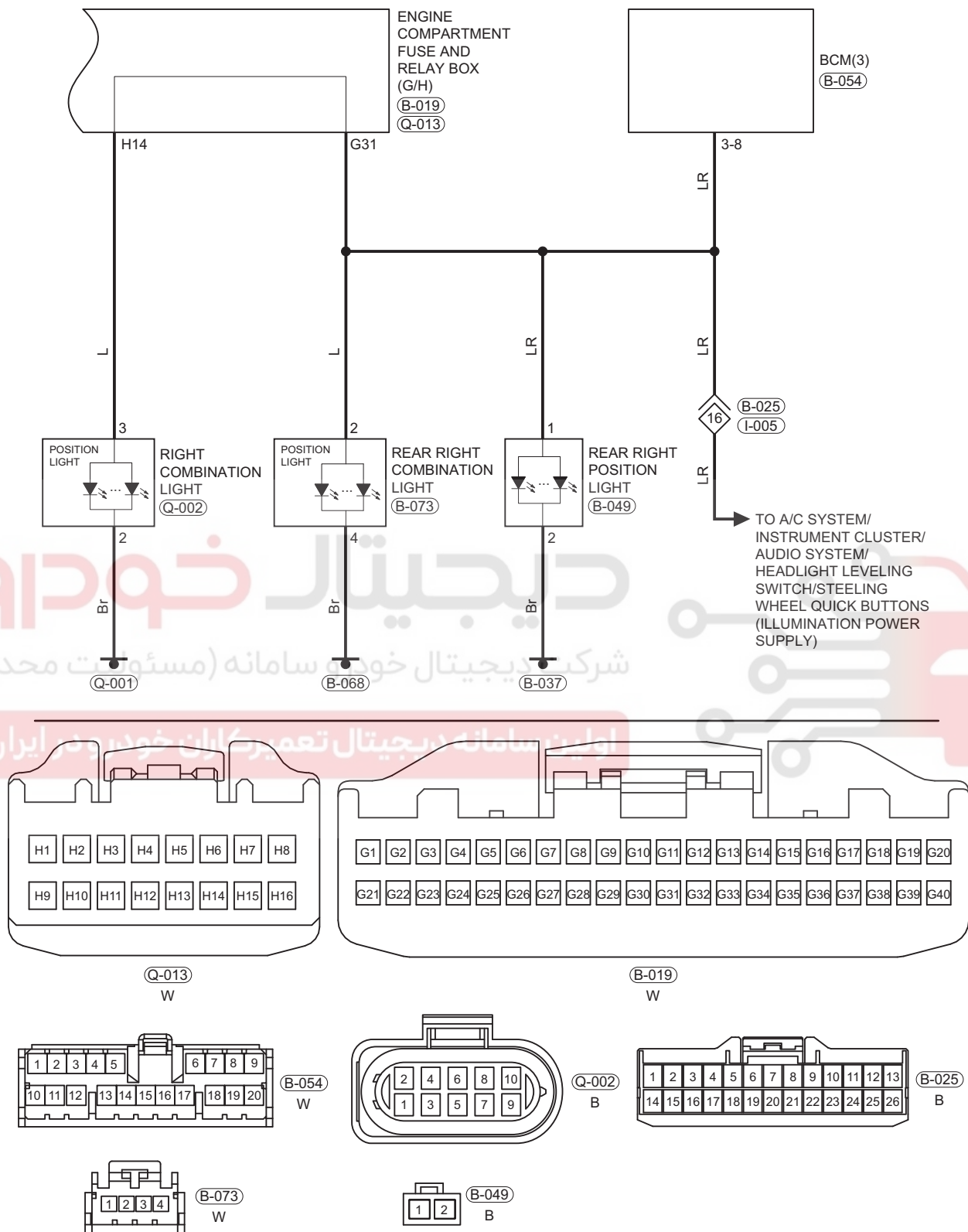
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



36 - LIGHTING SYSTEM

36



EM1A350080

DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1004-11	Right Park Light Output Control Circuit Short to Ground	Ignition switch ON	- Wire harness or connector - BCM
B1004-13	Right Park Light Output Control Circuit Open		

CAUTION

- When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

DTC Confirmation Procedure

Confirm that battery voltage is normal before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC).
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in PEPS system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Use X-431 3G diagnostic tester to read DTCs.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 36-25](#)).

Diagnosis Procedure**1 Check right position light**

- Turn ignition switch to ON.
- Rotate knob of combination light switch to ON position of position light, and check if right position light comes on.
- Remove front right position light bulb, and check if front right position light bulb filament is blown.

NG

Replace rear right combination light or front right position light bulb

OK**2 Check connector and wire harness**

- Turn ignition switch to LOCK and disconnect negative battery cable.
- Check ground points B-037, B-068 and Q-001 of right position light ([See page 54-24](#)).
- Disconnect BCM connector B-054, engine compartment fuse and relay box connectors B-019 and Q-013.
- Disconnect front right combination light connector Q-002, rear right combination light connector B-073 and rear right position light connector B-049.
- Check if wire harnesses are worn, pierced, pinched or partially broken.

36 - LIGHTING SYSTEM

- f. Look for broken, bent, protruded or corroded terminals.
g. Check if related connector pins are in good condition.

NG

Repair or replace related connector or wire harness

OK

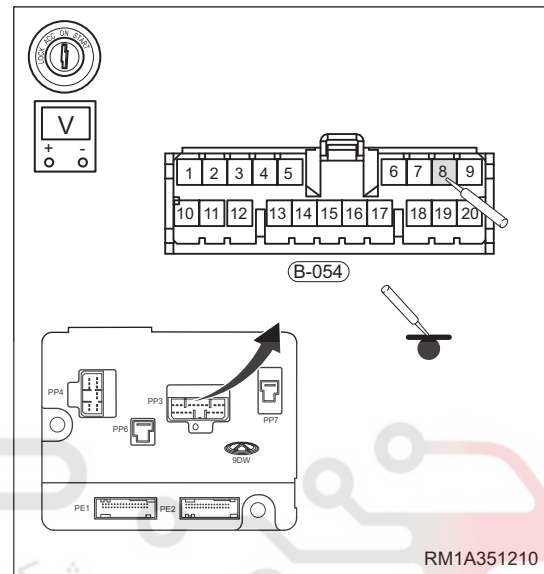
3 Check supply voltage of right position light

- a. Connect negative battery cable and turn ignition switch to ON.
b. Rotate knob of combination light switch to ON position of position light.
c. Check voltage between connector B-054 and body ground.

Multimeter Connection	Condition	Specified Condition
B-054 (8) - Body ground	Ignition switch ON	12 V

NG

Go to step 6



OK

4 Check right position light control circuit

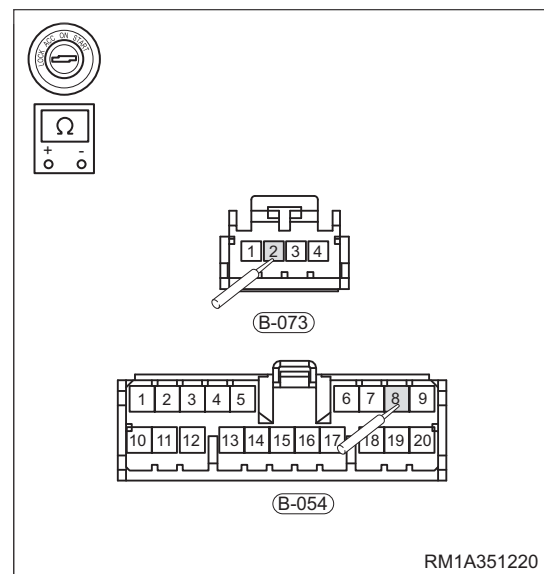
- a. Turn ignition switch to LOCK and disconnect negative battery cable.
b. Check wire harness between BCM connector B-054 and rear right combination light (fixed part) connector B-073.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (8) - B-073 (2)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (8) or B-073 (2) - Body ground	Always	No continuity



Multimeter Connection	Condition	Specified Condition
B-054 (8) or B-073 (2) - Battery positive	Always	No continuity

- c. Check wire harness between BCM connector B-054 and rear right combination light (movable part) connector B-049.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (8) - B-049 (1)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (8) or B-049 (1) - Body ground	Always	No continuity
B-054 (8) or B-049 (1) - Battery positive	Always	No continuity

- d. Check wire harness between BCM connector B-054 and front right combination light connector Q-002.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (8) - Q-002 (3)	Always	Continuity

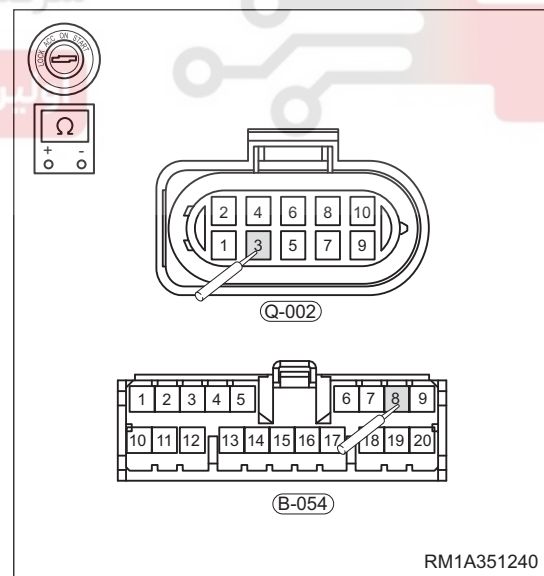
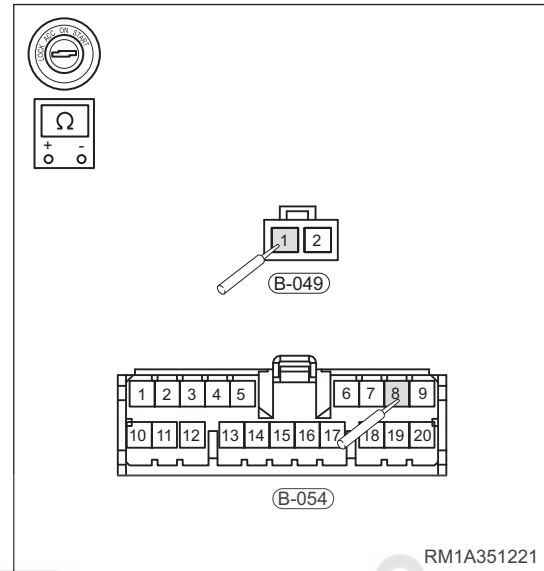
Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (8) or Q-002 (3) - Body ground	Always	No continuity
B-054 (8) or Q-002 (3) - Battery positive	Always	No continuity

NG

Repair or replace related connector or wire harness

OK

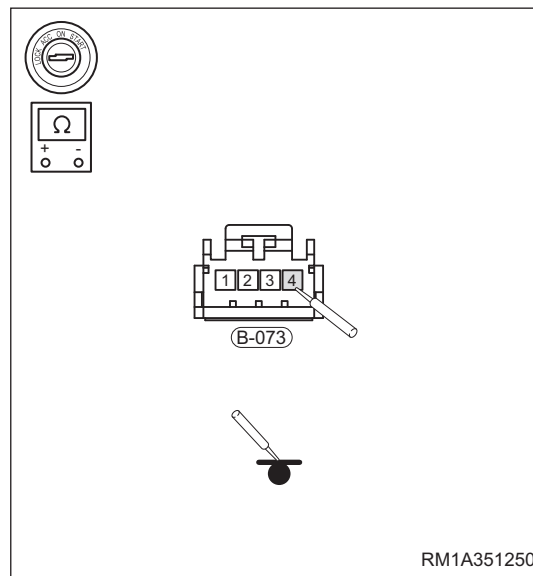


5 Check right position light ground wire

- a. Check wire harness between rear right combination light (fixed part) connector B-073 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-073 (4) - Body ground	Always	Continuity

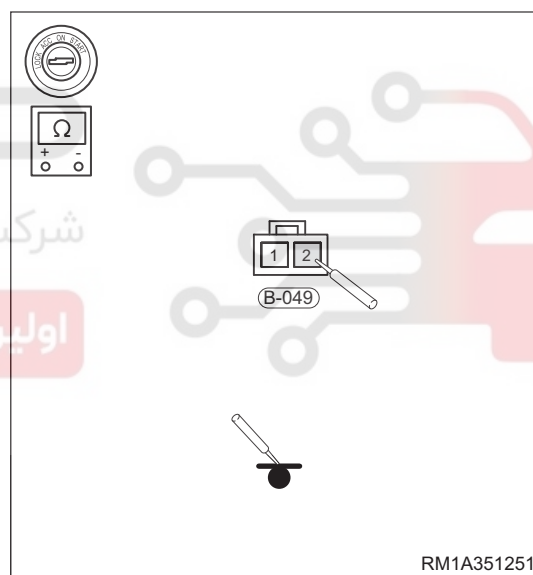


36

- b. Check wire harness between rear right combination light (movable part) connector B-049 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-049 (2) - Body ground	Always	Continuity



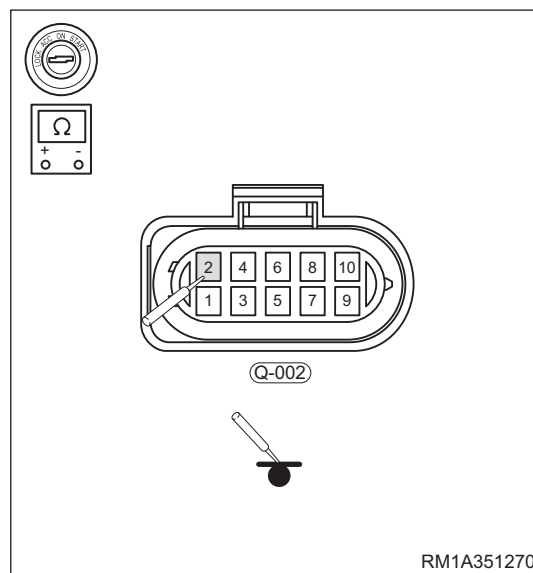
- c. Check wire harness between right headlight connector Q-002 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
Q-002 (2) - Body ground	Always	Continuity

NG

Repair or replace related connector or wire harness



OK

6

Replace BCM

36

- Replace the BCM.
- Connect the related wire harness connectors.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Connect X-431 3G diagnostic tester to Data Link Connector, check if any DTC is detected.

OK

System operates normally

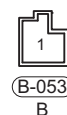
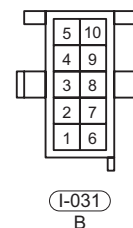
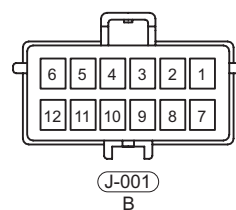
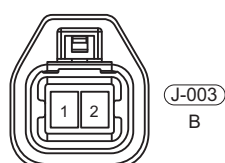
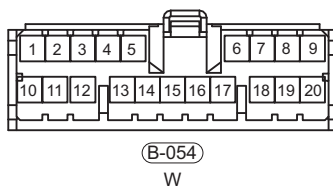
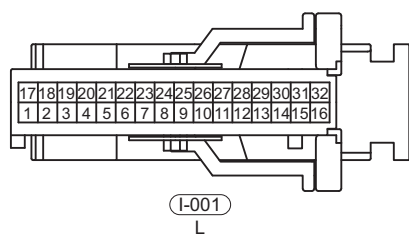
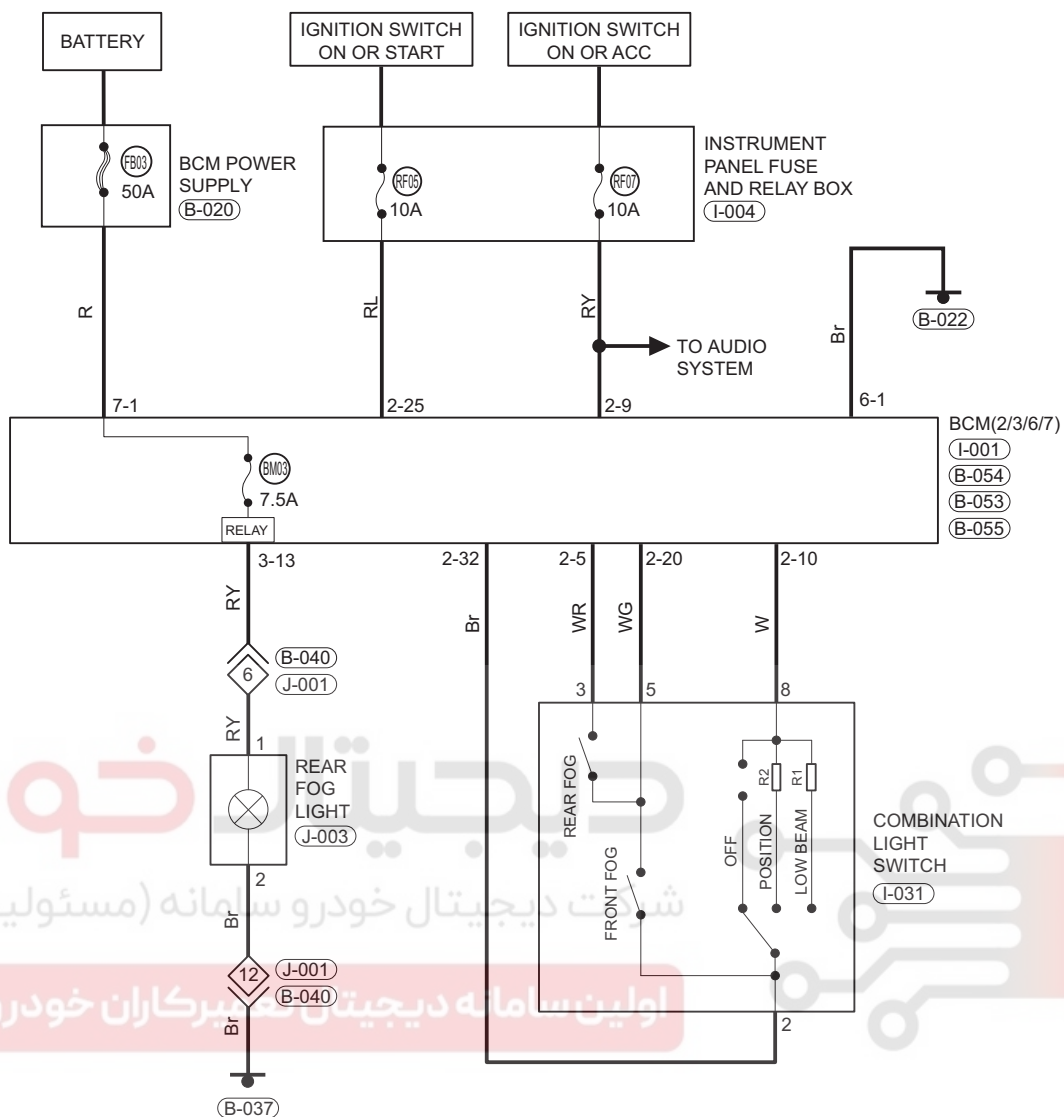
DTC	B1008-13	Rear Fog Control Circuit Open
DTC	B1008-71	Rear Fog Control Circuit Actuator Stuck

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران





EM1A350040

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DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1008-13	Rear Fog Control Circuit Open	Ignition switch ON	- Fuse - Rear fog light relay - Wire harness or connector - BCM
B1008-71	Rear Fog Control Circuit Actuator Stuck		

 CAUTION

- When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

DTC Confirmation Procedure

Confirm that battery voltage is normal before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC).
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in PEPS system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Use X-431 3G diagnostic tester to read DTCs.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 36-25](#)).

Diagnosis Procedure**1 Check rear fog light bulb**

- Turn off all electrical equipment and the ignition switch.
- Disconnect the negative battery cable.
- Remove rear fog light bulb, and check if bulb filament is blown.

NG

Replace damaged rear fog light bulb

OK

2 Check fuse

- Remove fuse FB03 (50A) from power supply fuse box.
- Remove fuse BM03 (7.5A) from body control module.

NG

Repair or replace damaged fuse and relay

OK

3**Check ground point, connector and wire harness**

- Check the BCM ground point B-022 (See page 54-24).
- Disconnect BCM connectors B-054 and B-055.
- Disconnect the rear fog light connector J-003.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector pins are in good condition.

NG**Repair or replace related connector or wire harness****OK****4****Check rear fog light control circuit**

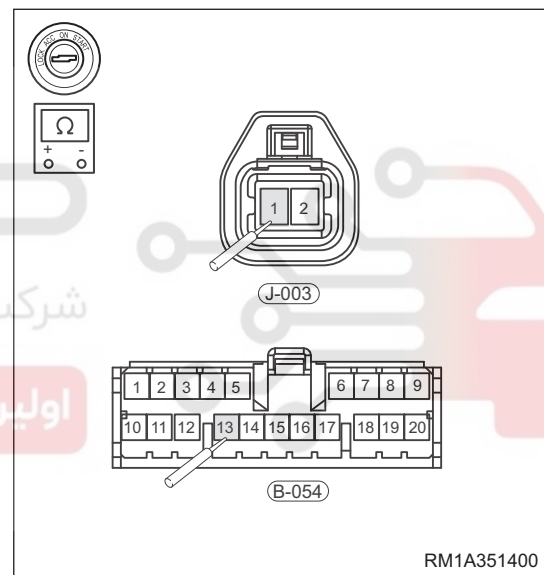
- Check wire harness between BCM connector B-054 and rear fog light connector J-003.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (13) - J-003 (1)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (13) or J-003 (1) - Body ground	Always	No continuity
B-054 (13) or J-003 (1) - Battery positive	Always	No continuity

NG**Repair or replace related connector or wire harness****OK****36**

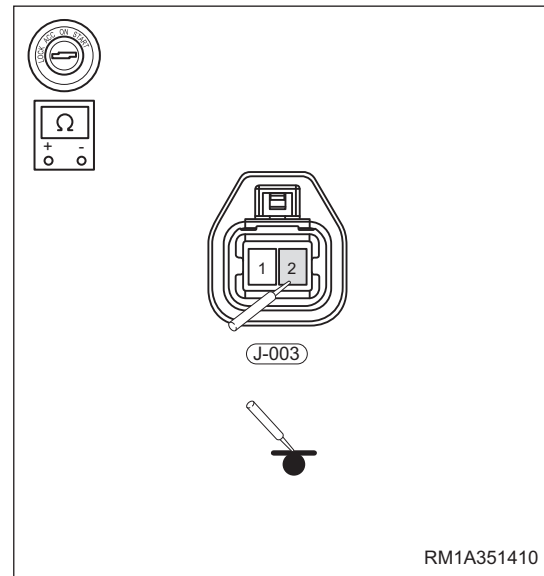
36 - LIGHTING SYSTEM

5**Check rear fog light ground circuit**

- a. Check wire harness between rear fog light connector J-003 and body ground.

Check for Open

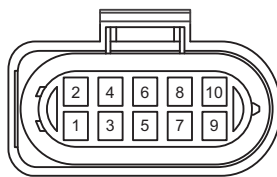
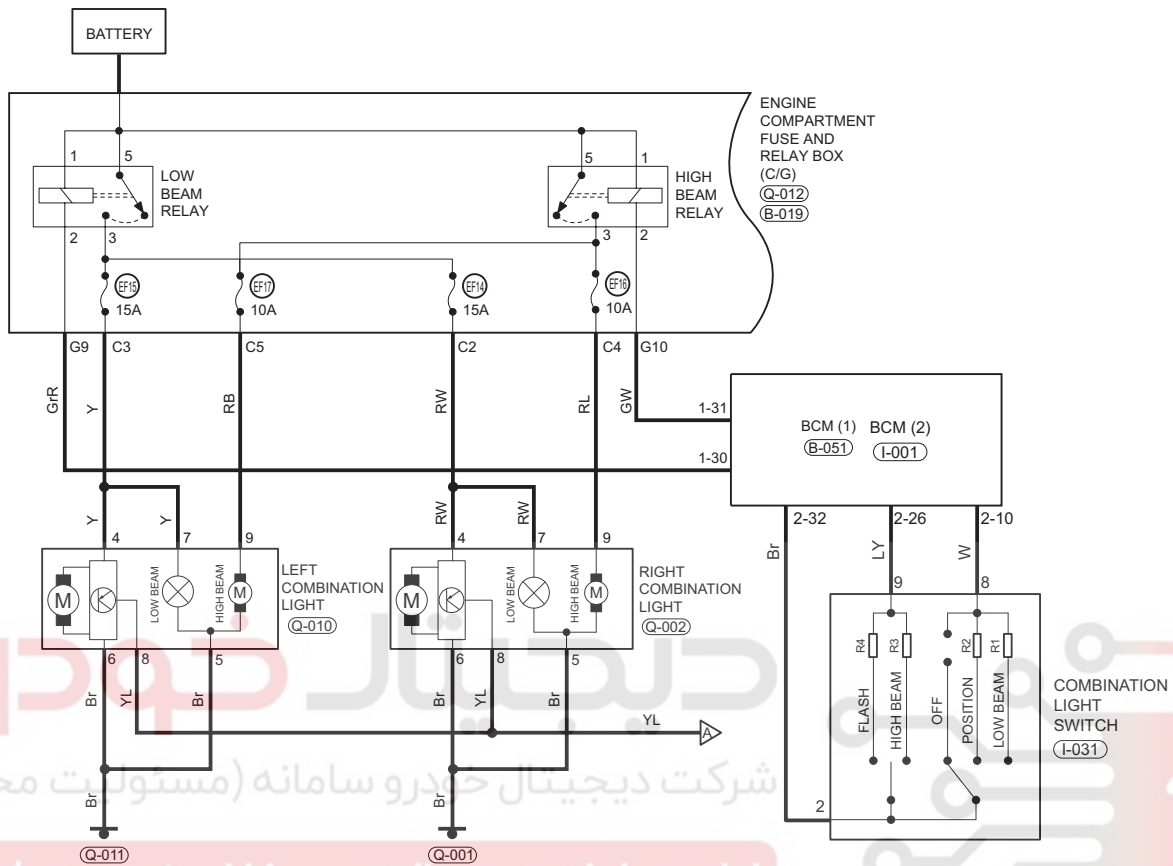
Multimeter Connection	Condition	Specified Condition
J-003 (2) - Body ground	Always	Continuity

NG**Repair or replace rear fog light ground wire harness****OK****6****Reconfirm DTCs**

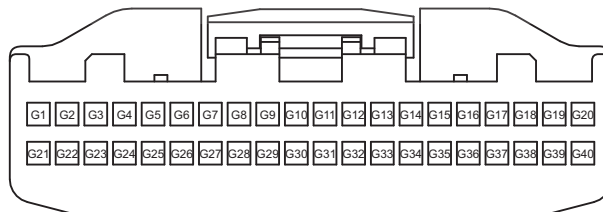
- a. Connect the related wire harness connectors.
 b. Connect the negative battery cable.
 c. Turn ignition switch to ON.
 d. Connect X-431 3G diagnostic tester to Data Link Connector, check if any DTC is detected.

NG**Repair or replace BCM****OK****System operates normally**

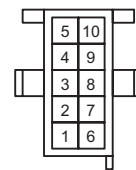
Headlight Diagnosis



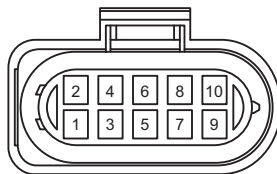
Q-010
B



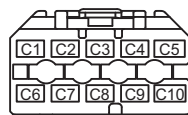
B-019
W



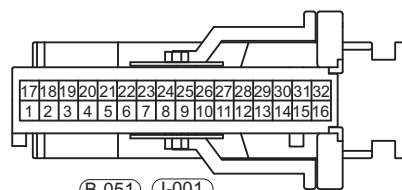
I-031
B



Q-010
B



Q-012
L



B-051 I-001
G L

EM1A350190

36 - LIGHTING SYSTEM

Symptom	Detection Condition	Possible Cause
Low beam light does not operate	Ignition switch ON	- Low beam light relay - High beam light relay - Fuse - Wire harness or connector - BCM - Low beam light control circuit short to battery - Low beam light control circuit open - High beam light control circuit short to battery - High beam light control circuit open
High beam light does not operate		
Light on one side does not operate		
High beam and low beam lights do not operate		

 CAUTION

- When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

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Malfunction Confirmation Procedure

Confirm that battery voltage is normal before performing following procedures.

Diagnosis Procedure**1 Check low beam light bulb and high beam light bulb**

- Turn off all electrical equipment and the ignition switch.
- Disconnect the negative battery cable.
- Remove left headlight bulb, and check if bulb filament is blown.
- Remove right headlight bulb, and check if bulb filament is blown.

NG

Replace headlight bulb

OK

2 Check fuse and relay

- Remove fuses EF15 (15A), EF17 (10A), EF14 (15A) and EF16 (10A) from engine compartment fuse and relay box.
- Remove low beam light relay and high beam light relay from engine compartment fuse and relay box.
- Check fuses and relays for blown and damage.

NG

Repair or replace damaged fuse and relay

OK

3**Check ground point, connector and wire harness**

- Check the BCM ground point B-022 (See page 54-24).
- Disconnect BCM connector B-051, engine compartment fuse and relay box connectors B-019 and Q-012.
- Disconnect right headlight connector Q-002 and left headlight connector Q-010.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector pins are in good condition.

NG**Repair or replace related connector or wire harness****OK****4****Check low beam light and high beam light control circuits**

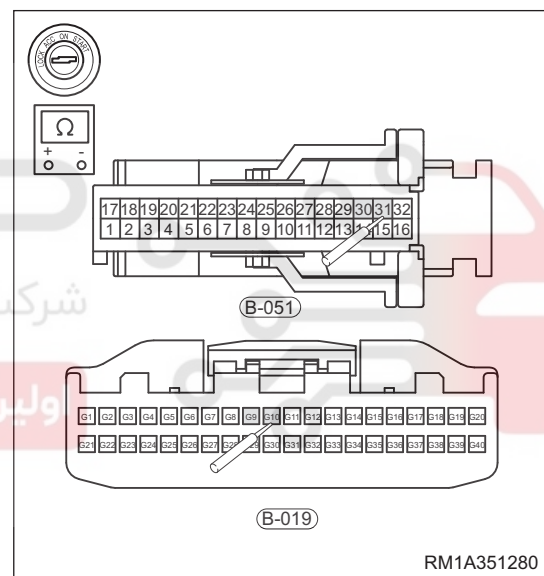
- Check wire harness between BCM connector B-051 and engine compartment fuse and relay box connector B-019.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-051 (31) - B-019 (G10)	Always	Continuity
B-051 (30) - B-019 (G9)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-051 (31) or B-019 (G10) - Body ground	Always	No continuity
B-051 (30) or B-019 (G9) - Body ground	Always	No continuity
B-051 (31) or B-019 (G10) - Battery positive	Always	No continuity
B-051 (30) or B-019 (G9) - Battery positive	Always	No continuity

**36**

36 - LIGHTING SYSTEM

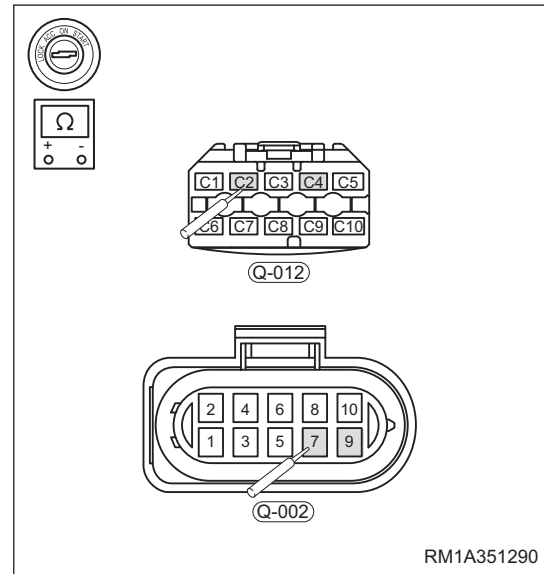
- b. Check wire harness between right headlight connector Q-002 and engine compartment fuse and relay box connector Q-012.

Check for Open

Multimeter Connection	Condition	Specified Condition
Q-002 (7) - Q-012 (C2)	Always	Continuity
Q-002 (9) - Q-012 (C4)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
Q-002 (7) or Q-012 (C2) - Body ground	Always	No continuity
Q-002 (9) or Q-012 (C4) - Body ground	Always	No continuity
Q-002 (7) or Q-012 (C2) - Battery positive	Always	No continuity
Q-002 (9) or Q-012 (C4) - Battery positive	Always	No continuity



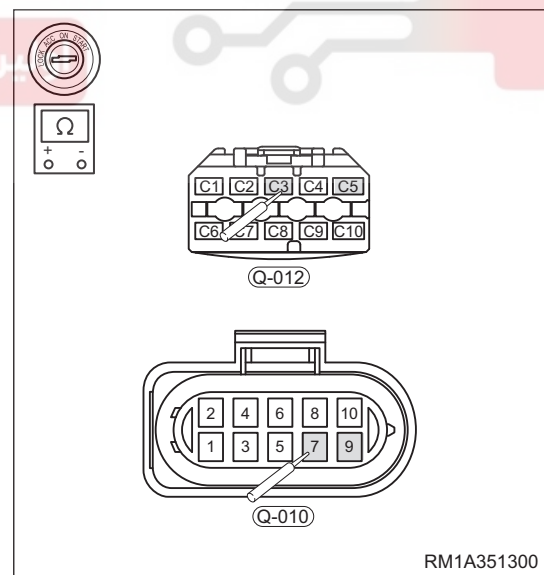
- c. Check wire harness between left headlight connector Q-010 and engine compartment fuse and relay box connector Q-012.

Check for Open

Multimeter Connection	Condition	Specified Condition
Q-010 (7) - Q-012 (C3)	Always	Continuity
Q-010 (9) - Q-012 (C5)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
Q-010 (7) or Q-012 (C3) - Body ground	Always	No continuity
Q-010 (9) or Q-012 (C5) - Body ground	Always	No continuity



Multimeter Connection	Condition	Specified Condition
Q-010 (7) or Q-012 (C3) - Battery positive	Always	No continuity
Q-010 (9) or Q-012 (C5) - Battery positive	Always	No continuity

NG

Repair or replace related connector or wire harness

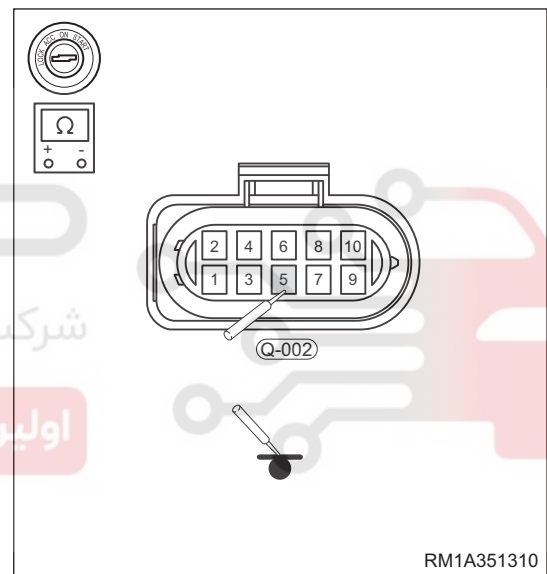
OK

5 Check low beam light and high beam light ground circuits

- a. Check wire harness between right headlight connector Q-002 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
Q-002 (5) - Body ground	Always	Continuity



36

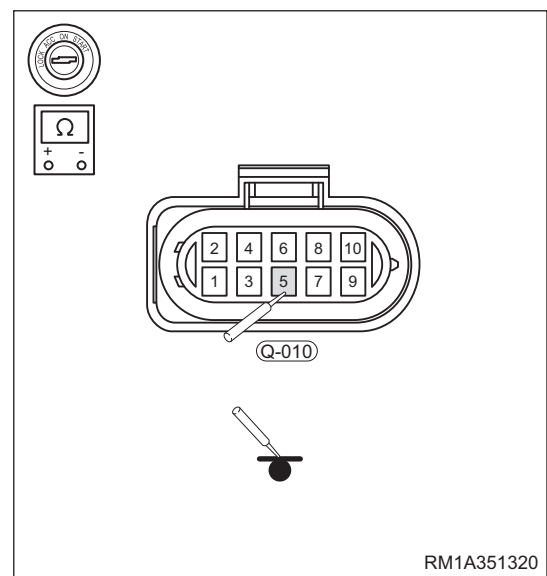
- b. Check wire harness between left headlight connector Q-010 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
Q-010 (5) - Body ground	Always	Continuity

NG

Repair or replace low beam light and high beam light ground wire harnesses



36 - LIGHTING SYSTEM

OK

6

Reconfirm DTCs

- a. Connect the related wire harness connectors.
- b. Connect the negative battery cable.
- c. Turn ignition switch to ON.
- d. Connect X-431 3G diagnostic tester to Data Link Connector, check if any DTC is detected.

NG

Repair or replace BCM

OK

System operates normally

36

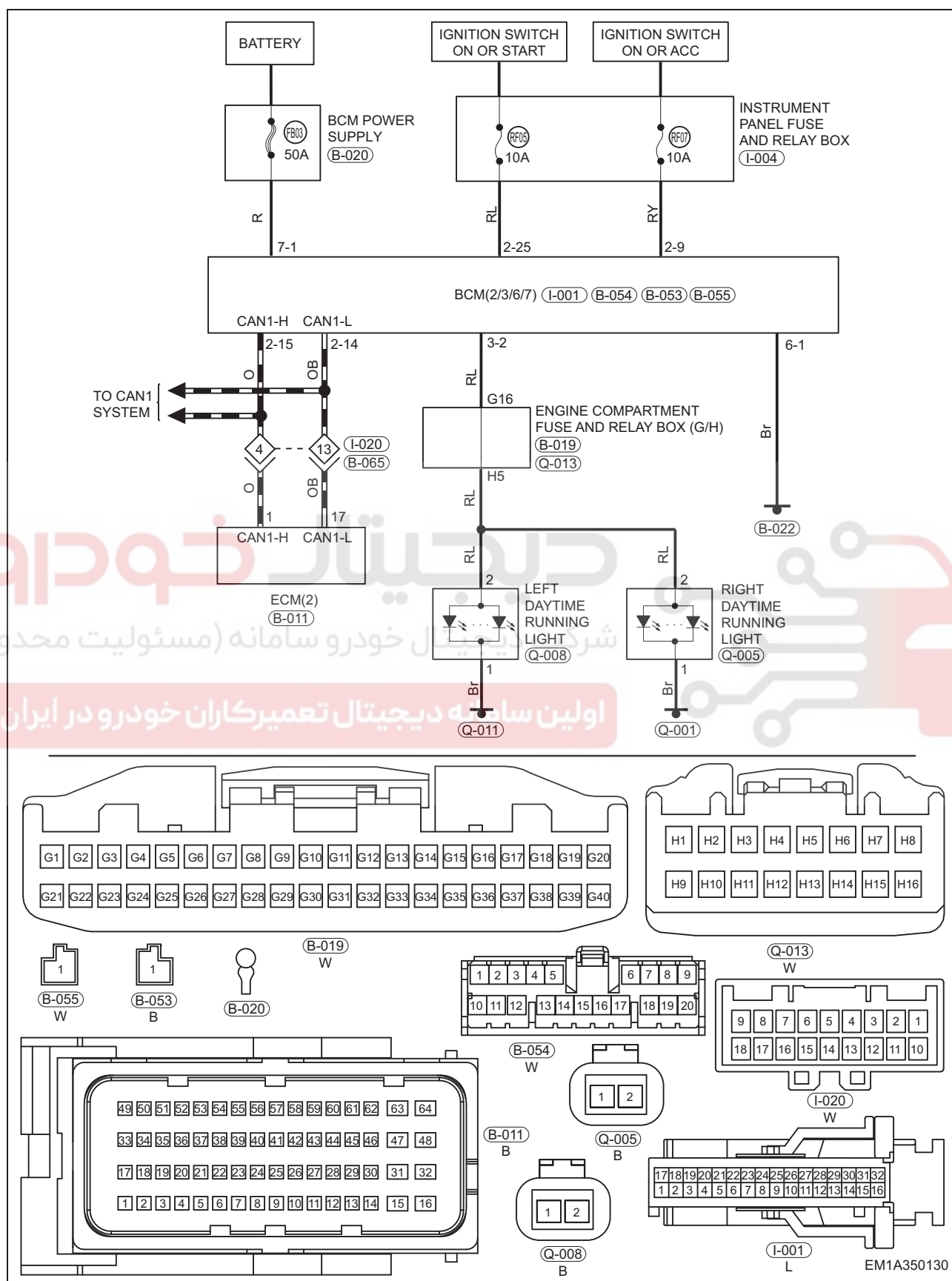
دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



Daytime Running Light Diagnosis



36 - LIGHTING SYSTEM

Symptom	Detection Condition	Possible Cause
Daytime running light does not operate	Ignition switch ON	- Wire harness or connector - BCM - Daytime running light

 CAUTION

- When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

Malfunction Confirmation Procedure

Confirm that battery voltage is normal before performing following procedures.

Diagnosis Procedure

36

1 Check daytime running light bulb

- Turn off all electrical equipment and the ignition switch.
- Disconnect the negative battery cable.
- Remove daytime running light, and check LED for obvious damage.

NG

Replace damaged daytime running light

OK

2 Check ground point, connector and wire harness

- Check the BCM ground point B-022 (See page 54-24).
- Disconnect BCM connector B-054, engine compartment fuse and relay box connectors B-019 and Q-013.
- Disconnect right daytime running light connector Q-005 and left daytime running light connector Q-008.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector pins are in good condition.

NG

Repair or replace related connector or wire harness

OK

3**Check daytime running light control circuit**

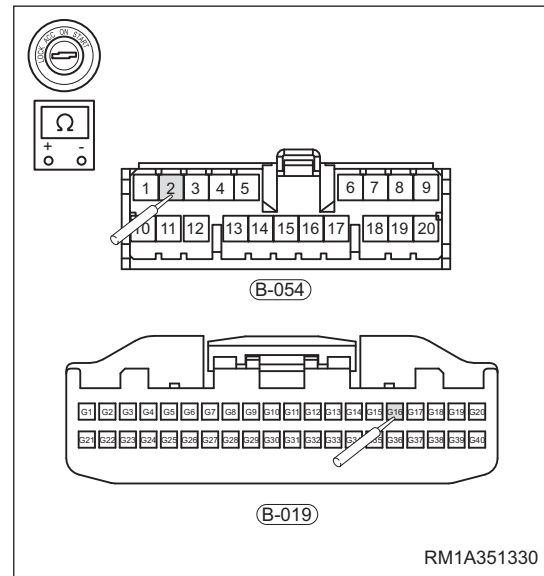
- a. Check wire harness between BCM connector B-054 and engine compartment fuse and relay box connector B-019.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (2) - B-019 (G16)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (2) or B-019 (G16) - Body ground	Always	No continuity
B-054 (2) or B-019 (G16) - Battery positive	Always	No continuity



36

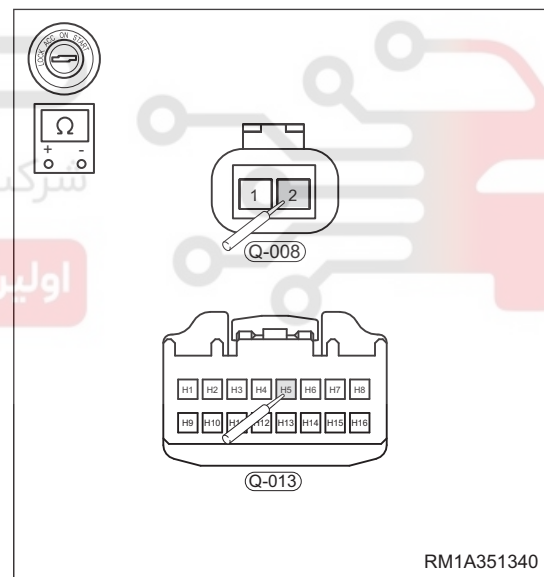
- b. Check wire harness between engine compartment fuse and relay box connector Q-013 and left daytime running light connector Q-008.

Check for Open

Multimeter Connection	Condition	Specified Condition
Q-013 (H5) - Q-008 (2)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
Q-013 (H5) or Q-008 (2) - Body ground	Always	No continuity
Q-013 (H5) or Q-008 (2) - Battery positive	Always	No continuity



36 - LIGHTING SYSTEM

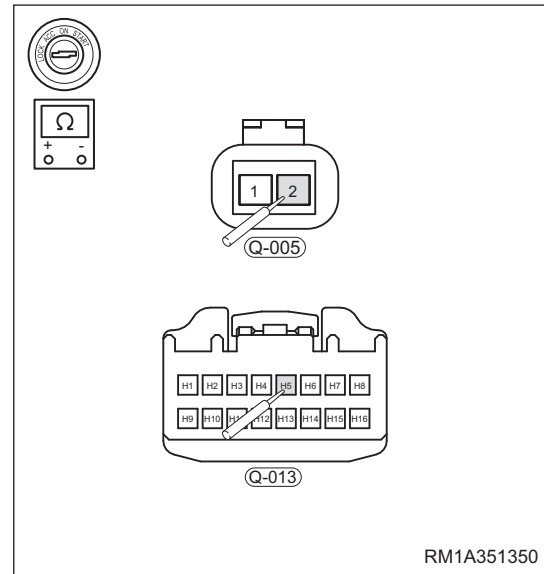
- c. Check wire harness between engine compartment fuse and relay box connector Q-013 and right daytime running light connector Q-005.

Check for Open

Multimeter Connection	Condition	Specified Condition
Q-013 (H5) - Q-005 (2)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
Q-013 (H5) or Q-005 (2) - Body ground	Always	No continuity
Q-013 (H5) or Q-005 (2) - Battery positive	Always	No continuity



36

NG

Repair or replace related connector or wire harness

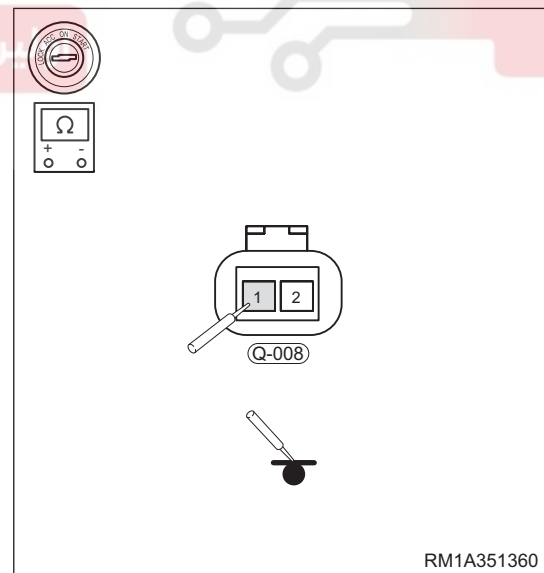
OK

4 Check daytime running light ground circuit

- a. Check wire harness between left daytime running light connector Q-008 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
Q-008 (1) - Body ground	Always	Continuity



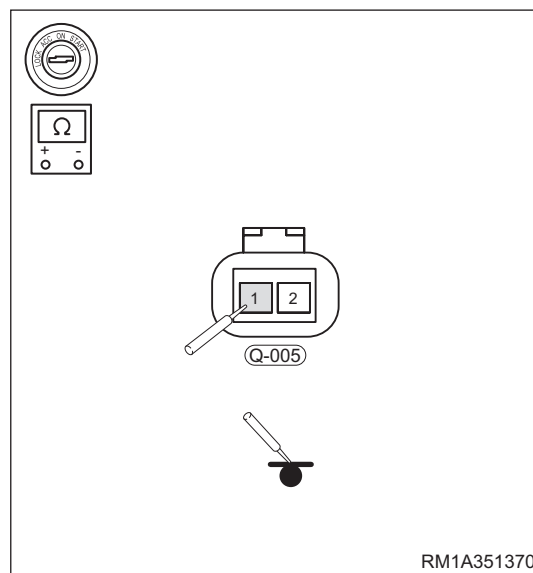
- b. Check wire harness between right daytime running light connector Q-005 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
Q-005 (1) - Body ground	Always	Continuity

NG

Repair or replace daytime running light ground wire harness



OK

5

Check if malfunction is repaired

- a. Connect the related wire harness connectors.
b. Connect the negative battery cable.
c. Turn ignition switch to ON.

NG

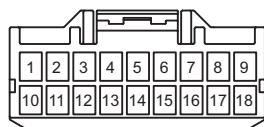
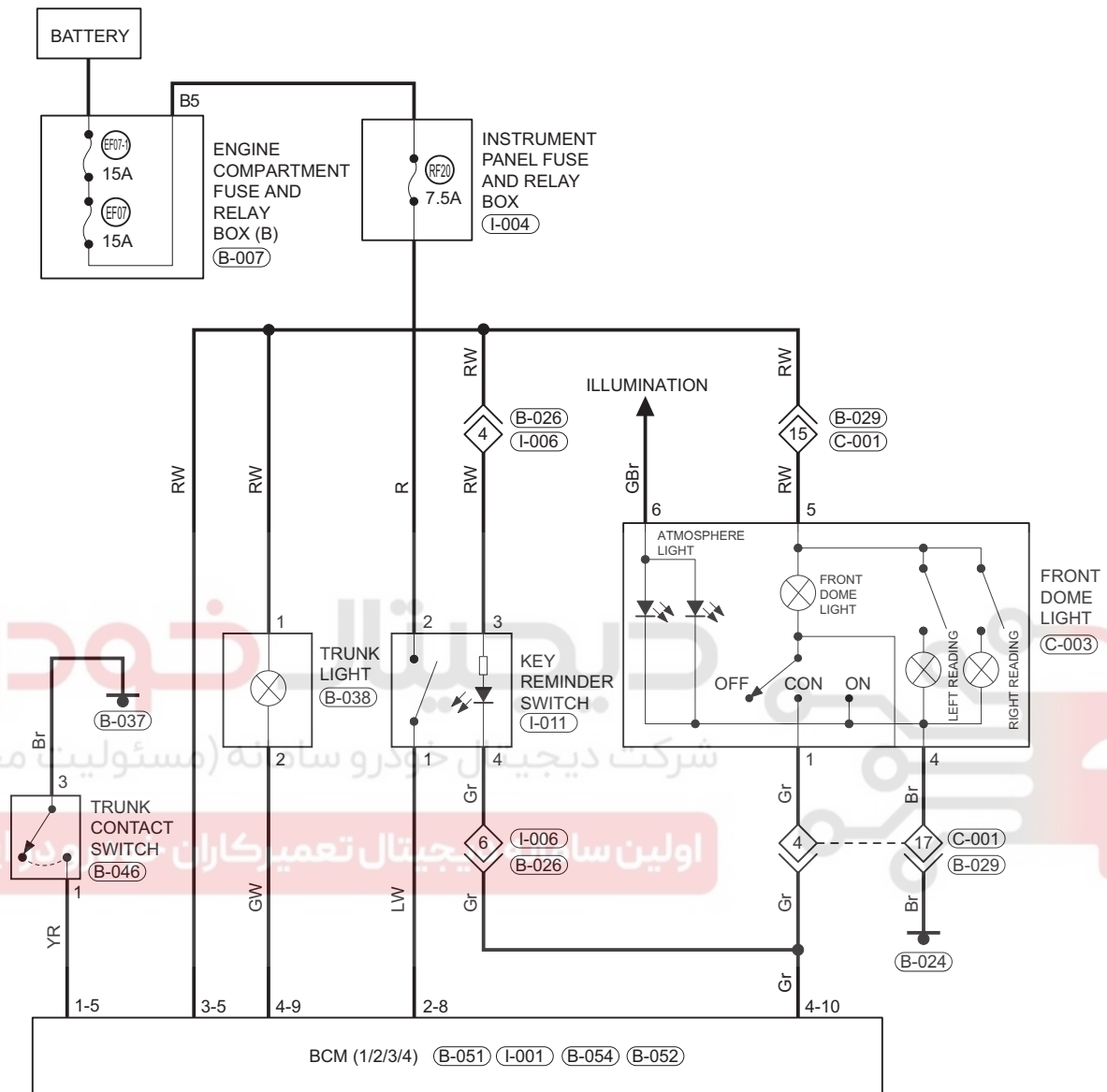
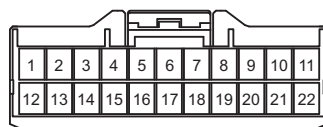
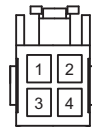
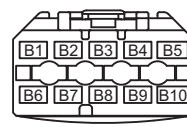
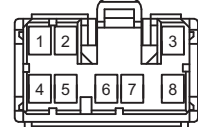
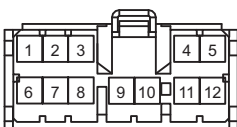
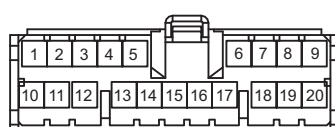
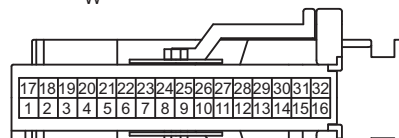
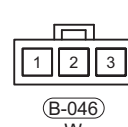
Repair or replace BCM

OK

System operates normally

36

Front Dome Light Diagnosis

B-029
WB-026
WI-011
WB-007
YC-003
WB-052
WB-054
WI-001
L
B-051
GB-046
WB-038
B

EM1A350120

Symptom	Detection Condition	Possible Cause
Dome light does not operate	Ignition switch ON	- Wire harness or connector - BCM - Dome light

CAUTION

- When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

Malfunction Confirmation Procedure

Confirm that battery voltage is normal before performing following procedures.

Diagnosis Procedure

1 Check dome light bulb

- Turn off all electrical equipment and the ignition switch.
- Disconnect the negative battery cable.
- Remove front dome light bulb, and check if bulb filament is blown.

NG

Replace damaged dome light bulb

OK

2 Check ground point, connector and wire harness

- Check the BCM ground point B-050 (See page 54-24).
- Disconnect the BCM connector B-022.
- Disconnect the front dome light connector C-003.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector pins are in good condition.

NG

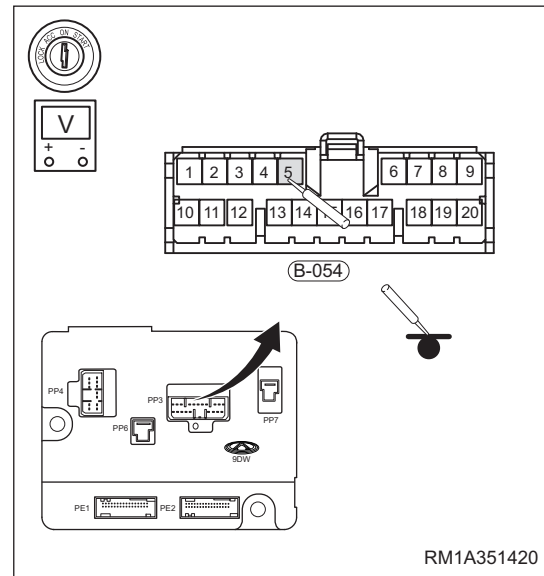
Repair or replace related connector or wire harness

OK

3**Check supply voltage of dome light**

- Connect the negative battery cable.
- Check voltage between connector B-054 and body ground.

Multimeter Connection	Condition	Specified Condition
B-054 (5) - Body ground	Ignition switch ON	Continuity

NG**Go to step 7****OK****4****Check dome light control circuit**

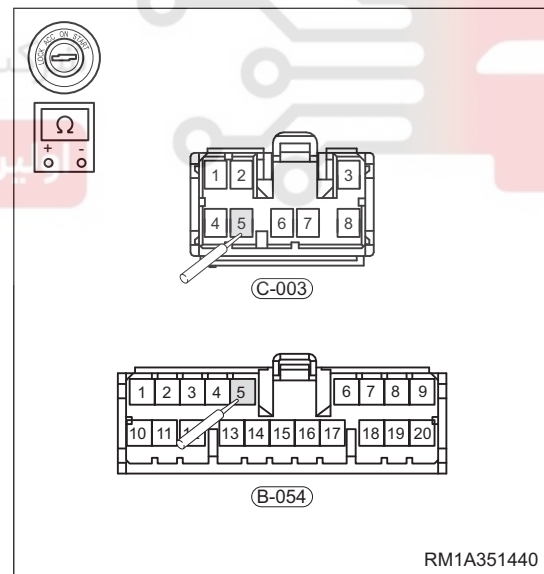
- Disconnect the negative battery cable.
- Check wire harness between BCM connector B-054 and front dome light connector C-003.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (5) - C-003 (5)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (5) or C-003 (5) - Body ground	Always	No continuity

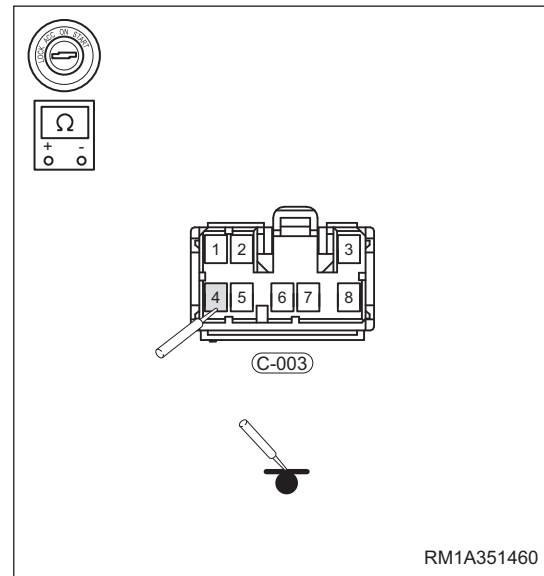
NG**Repair or replace related connector or wire harness****OK**

5 Check dome light ground wire

- a. Check wire harness between front dome light connector C-003 and body ground.

Check for Open

Multimeter Connection	Condition	Specified Condition
C-003 (4) - Body ground	Always	Continuity



36

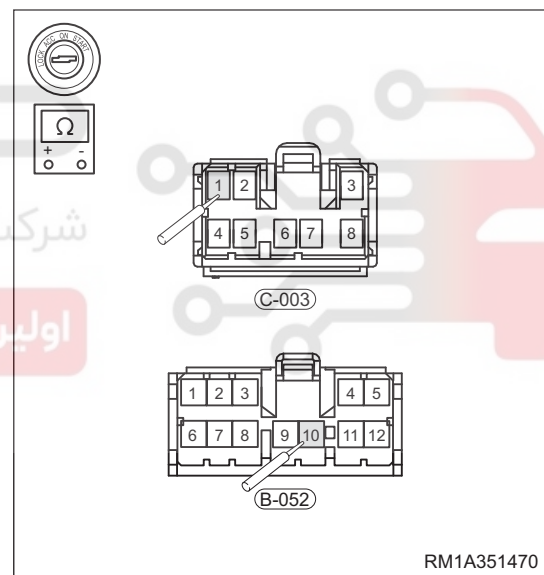
- b. Check wire harness between front dome light connector C-003 and BCM connector B-052.

Check for Open

Multimeter Connection	Condition	Specified Condition
C-003 (1) - B-052 (10)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
C-003 (1) or B-052 (10) - Body ground	Always	No continuity



NG

Repair or replace related connector or wire harness

OK

6 Check front dome light assembly

- a. Remove the front dome light assembly (See page 36-91).
b. Check the front dome light assembly (See page 36-91).

NG

Repair or replace front dome light assembly

OK

36 - LIGHTING SYSTEM

7

Replace BCM

- a. Replace the BCM.
- b. Connect the related wire harness connectors.
- c. Connect the negative battery cable.
- d. Turn ignition switch to ON.

OK

System operates normally

36

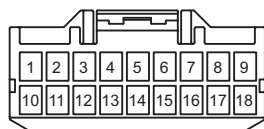
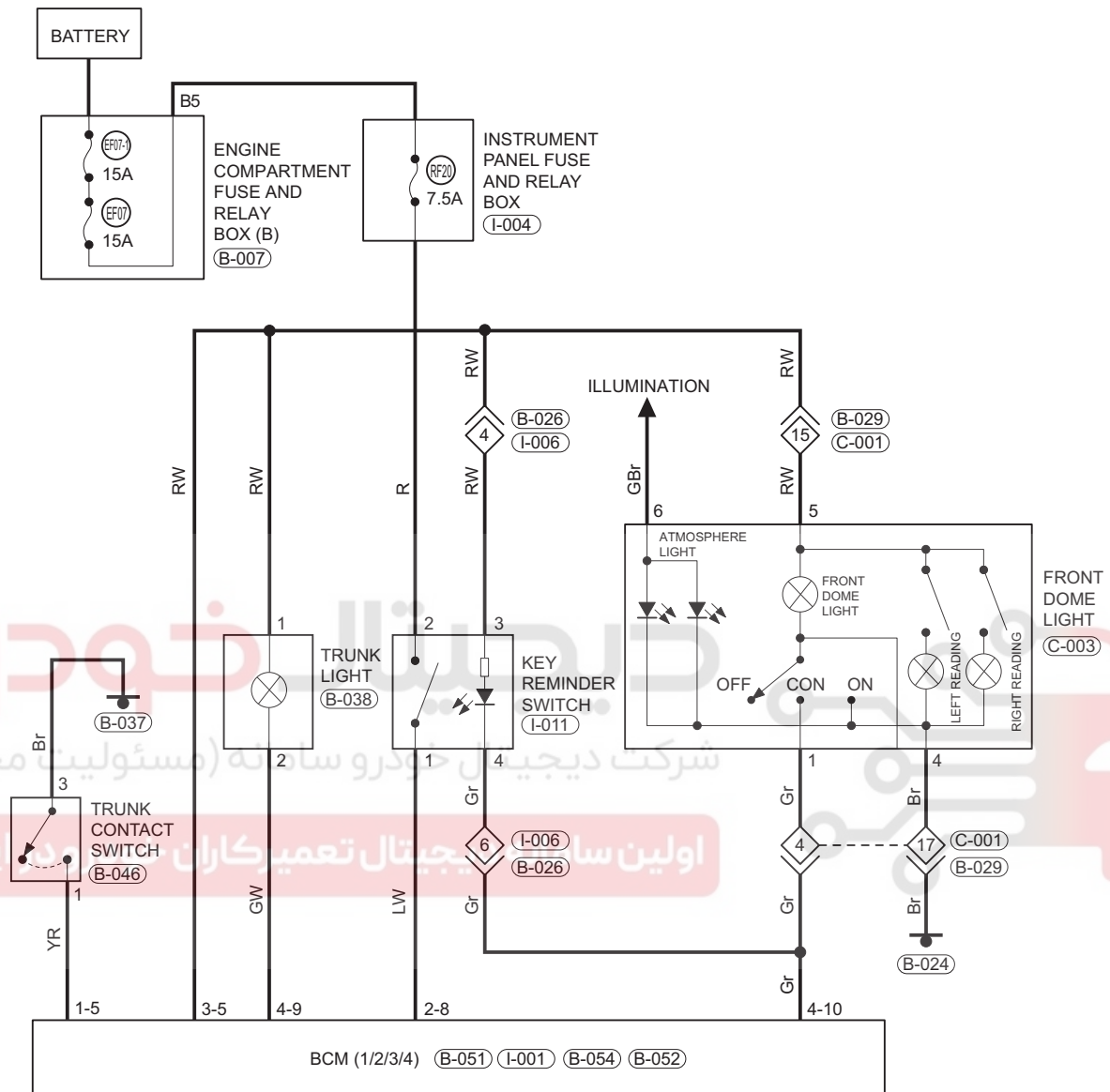
دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

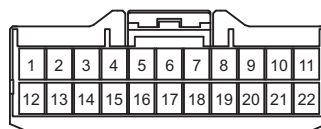
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



Luggage Compartment Light Diagnosis



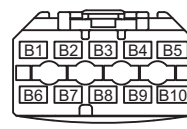
B-029
W



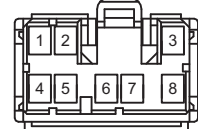
B-026
W



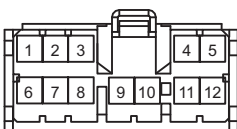
I-011
W



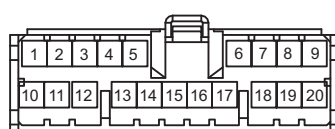
B-007
Y



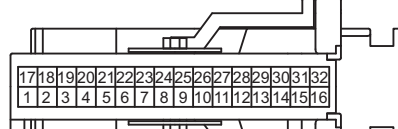
C-003
W



B-052
W

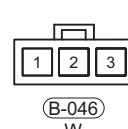


B-054
W



I-001
L

B-051
G



B-046
W



B-038
B

EM1A350120

36 - LIGHTING SYSTEM

Symptom	Detection Condition	Possible Cause
Luggage compartment light does not operate	Ignition switch ON	- Wire harness or connector - BCM - Luggage compartment light

 CAUTION

- When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

Malfunction Confirmation Procedure

Confirm that battery voltage is normal before performing following procedures.

Diagnosis Procedure

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1 Check luggage compartment light bulb

- Turn off all electrical equipment and the ignition switch.
- Disconnect the negative battery cable.
- Remove luggage compartment light bulb, and check if bulb filament is blown.

NG

Replace luggage compartment light bulb

OK

2 Check ground point, connector and wire harness

- Check the BCM ground point B-022 (See page 54-24).
- Disconnect BCM connectors B-052 and B-054.
- Disconnect the luggage compartment light connector B-038.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector pins are in good condition.

NG

Repair or replace related connector or wire harness

OK

3**Check luggage compartment light control circuit**

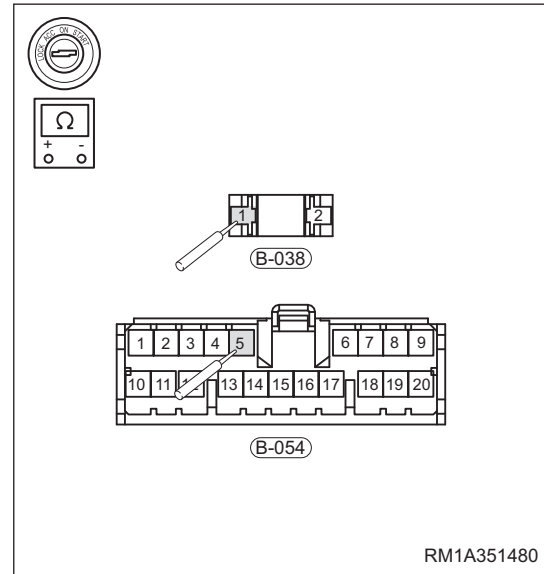
- Disconnect the negative battery cable.
- Check wire harness between BCM connector B-054 and luggage compartment light connector B-038.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-054 (5) - B-038 (1)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-054 (5) or B-038 (1) - Body ground	Always	No continuity

**NG**

Repair or replace related connector or wire harness

OK**4****Check luggage compartment light ground wire**

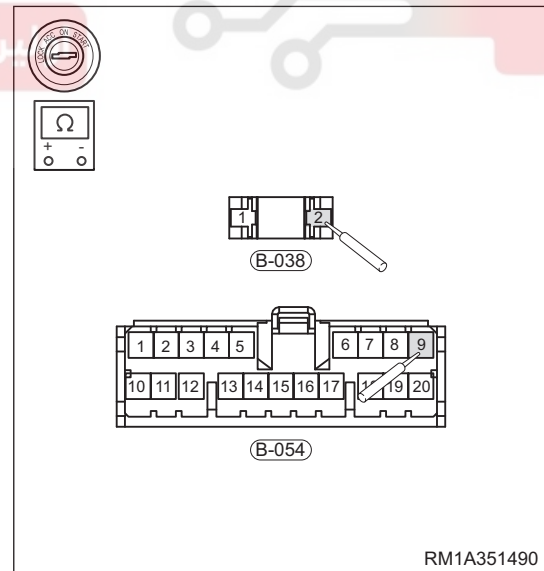
- Check wire harness between luggage compartment light connector B-038 and BCM connector B-052.

Check for Open

Multimeter Connection	Condition	Specified Condition
B-038 (2) - B-054 (9)	Always	Continuity

Check for Short

Multimeter Connection	Condition	Specified Condition
B-038 (2) or B-054 (9) - Body ground	Always	No continuity

**NG**

Repair or replace related connector or wire harness

OK

36 - LIGHTING SYSTEM

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Replace BCM

- a. Replace the BCM.
- b. Connect the related wire harness connectors.
- c. Connect the negative battery cable.
- d. Turn ignition switch to ON.

OK

System operates normally

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دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

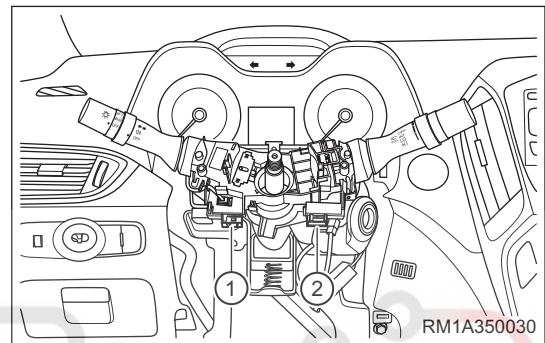


ON-VEHICLE SERVICE

Combination Light Switch Assembly

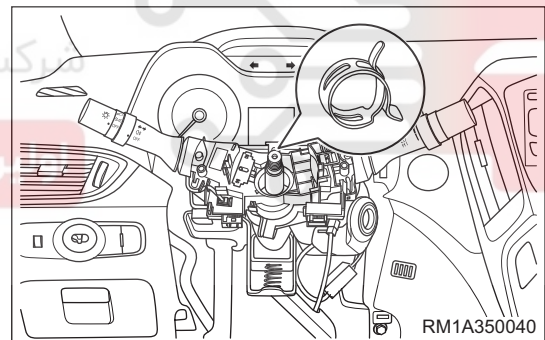
Removal

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the driver airbag.
4. Remove the steering wheel assembly (See page 28-10).
5. Remove the combination switch cover (See page 28-13).
6. Remove the spiral cable (See page 31-92).
7. Remove the combination switch assembly.
 - a. Disconnect combination light switch connector (1) and wiper switch connector (2).

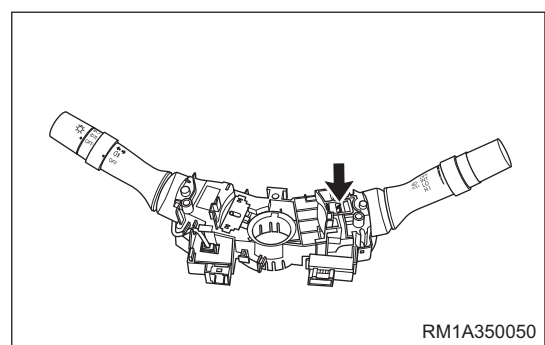


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- b. Loosen combination switch clamp and pull combination switch outward, then disconnect connection between combination switch and steering column to remove combination switch.



- c. Press claw (arrow) on wiper switch, and separate wiper switch and combination light switch assembly.



Inspection

1. Check the combination light switch.
 - a. Using ohm band of digital multimeter, measure resistance between terminals according to table below.

Combination Light Switch Assembly (Position Light/Low Beam Light/High Beam Light Switch)

Multimeter Connection	Switch Condition	Specified Condition
Terminal 8 - Terminal 2	Switch OFF	No continuity
Terminal 8 - Terminal 2	Switch in position light	220 Ω
Terminal 8 - Terminal 2	Switch in low beam	150 Ω
Terminal 9 - Terminal 2	Switch in high beam	150 Ω
Terminal 9 - Terminal 2	Switch in passing light	330 Ω

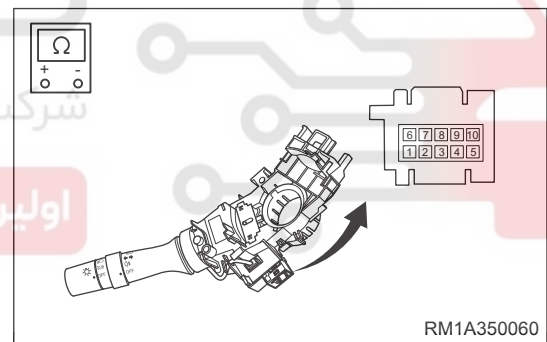
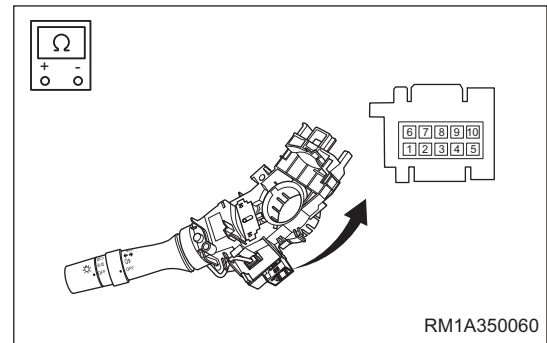
If result is not as specified, replace combination light switch assembly.

- b. Using ohm band of digital multimeter, check for continuity between terminals according to table below.

Combination Light Switch Assembly (Daytime Running Light/Rear Fog Light Switch)

Multimeter Connection	Switch Condition	Specified Condition
Terminal 5 - Terminal 2	Switch in front fog light	Continuity
Terminal 3 - Terminal 2	Switch in rear fog light	Continuity
Terminal 5 - Terminal 2	Switch OFF	No continuity
Terminal 3 - Terminal 2		

If result is not as specified, replace combination light switch assembly.

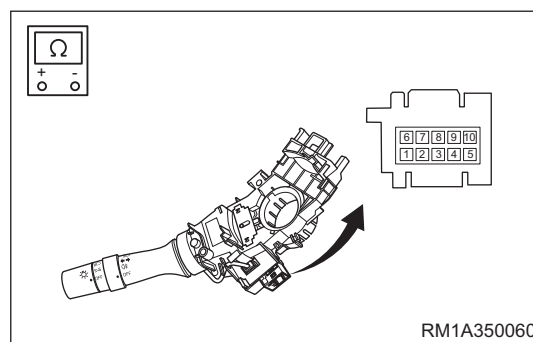


- c. Using ohm band of digital multimeter, measure resistance between terminals according to table below.

Combination Light Switch Assembly (Turn Signal Light Switch)

Multimeter Connection	Switch Condition	Specified Condition
Terminal 10 - Terminal 2	Switch in left turn position	150 Ω
Terminal 10 - Terminal 2	Switch in right turn position	330 Ω

If result is not as specified, replace combination light switch assembly.



RM1A350060

Installation

Installation is in the reverse order of removal.

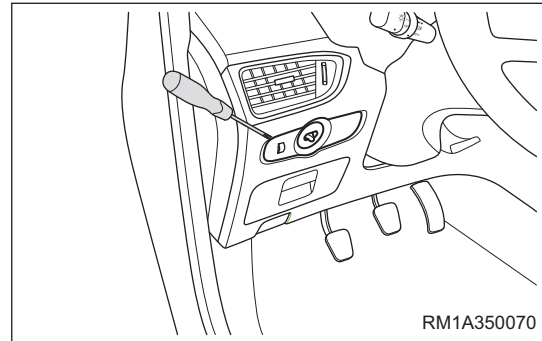
CAUTION

- Always install spiral cable correctly according to specified operating instructions.
- Check that horn operates normally after installation.
- Check SRS warning light after installation, and make sure that supplemental restraint system operates normally.

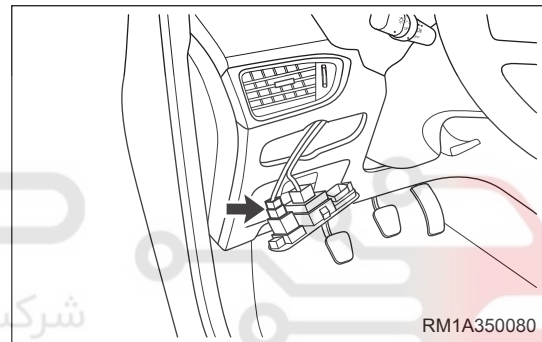
Adjustment Switch Assembly

Removal

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the adjustment switch assembly.
 - a. Using a screwdriver wrapped with protective tape, pry both ends of adjustment switch to remove it.



- b. Disconnect wire harness connector (arrow) from adjustment switch, and remove adjustment switch assembly.



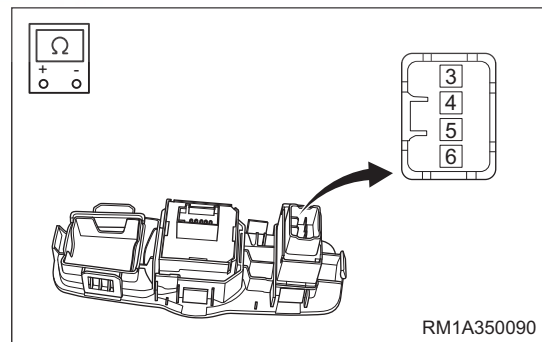
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دیجیتال خودرو
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

Inspection

1. Check the headlight leveling switch.
 - a. Check resistance of headlight leveling switch.

Multimeter Connection	Condition	Specified Condition
Terminal 3 - Terminal 5	Turn headlight leveling switch (level 0 to level 3)	Resistance value increases gradually
Terminal 5 - Terminal 6	Turn headlight leveling switch (level 0 to level 3)	Resistance value decreases gradually
Terminal 3 - Terminal 6	Turn headlight leveling switch (level 0 to level 3)	Resistance value does not change

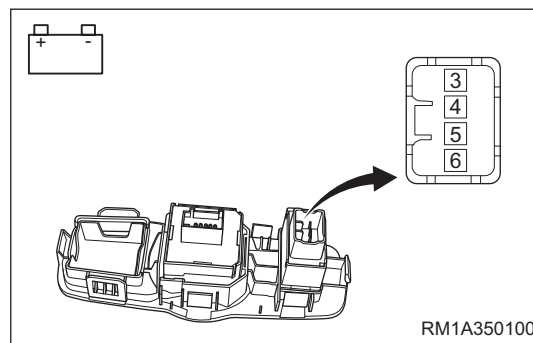


If result is not as specified, replace adjustment switch assembly.

b. Check headlight leveling switch backlight illumination.

Battery Connection	Condition	Specified Condition
Battery positive (+) - Terminal 4	Always	Backlight comes on
Battery negative (-) - Terminal 3		

If result is not as specified, replace adjustment switch assembly.



RM1A350100

Installation

Installation is in the reverse order of removal.

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

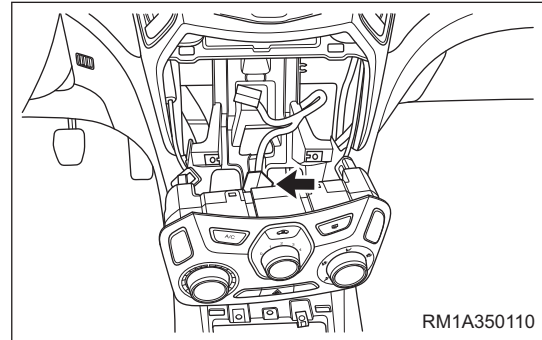
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



Warning Light Switch

Removal

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the lower center storage box assembly (See page 40-28).
4. Remove the A/C control panel assembly (See page 30-28).
5. Remove the warning light switch.
 - a. Disconnect the warning light switch wire harness connector (arrow).



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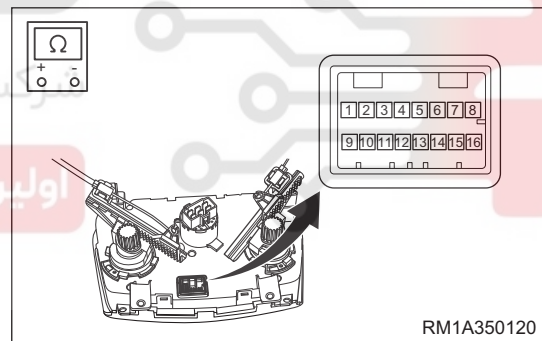
- b. Remove the A/C control panel assembly.

Inspection

1. Check the warning light switch.
 - a. Using ohm band of digital multimeter, check for continuity between terminals of warning light switch according to table below.

Multimeter Connection	Switch Condition	Specified Condition
Terminal 2 - Terminal 7	Switch pushed	Continuity
Terminal 2 - Terminal 7	Switch released	No continuity

If result is not as specified, replace warning light switch.



Installation

Installation is in the reverse order of removal.

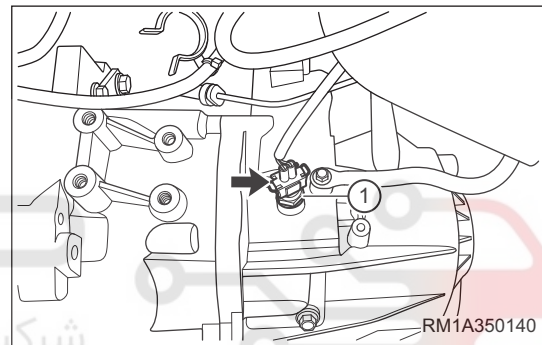
Back-up Light Switch Assembly

Removal

⚠ WARNING

- Be sure to wear necessary safety equipment to prevent accidents, when removing back-up light switch.
- Check if safety lock of lift is locked, when repairing or inspecting lifted vehicle.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Raise vehicle with a lift.
4. Remove the front bumper lower protector assembly (See page 49-20).
5. Remove the back-up light switch assembly.
 - a. Disconnect the back-up light switch assembly wire harness connector (arrow).
 - b. Remove the back-up light switch assembly (1).
(Tightening torque: 20 ± 2 N·m)



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HINT:

Transmission oil may flow out when removing back-up light switch assembly. Use a container to collect oil.

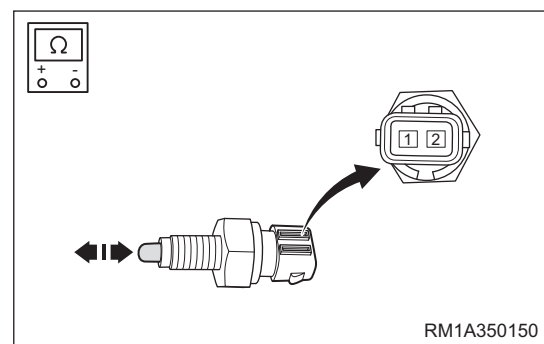
♻ ENVIRONMENTAL PROTECTION

- Drained transmission oil should be collected with a recovering tool.

Inspection

1. Check the back-up light switch assembly.
 - a. Using ohm band of digital multimeter, check for continuity between terminals of back-up light switch assembly according to table below.

Multimeter Connection	Switch Position	Specified Condition
Terminal 1 - Terminal 2	Switch pushed	Continuity
Terminal 1 - Terminal 2	Switch released	No continuity



Installation

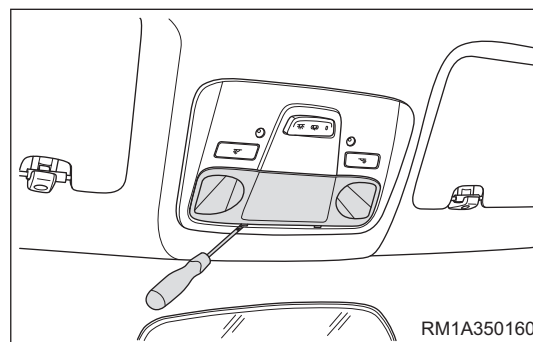
1. Apply thread locker to threads of back-up light switch assembly, and clean transmission oil on area between transmission and back-up light switch assembly, before installing back-up light switch assembly. Then install the back-up light switch assembly securely.
(Tightening torque: 20 ± 2 N·m)
2. Check if transmission oil level is in proper position after installation.
 - a. It is necessary to fill transmission oil to specified position, if it is not in proper position (fill oil until it flows out of retaining plug).
3. Other installation procedures are in the reverse order of removal.



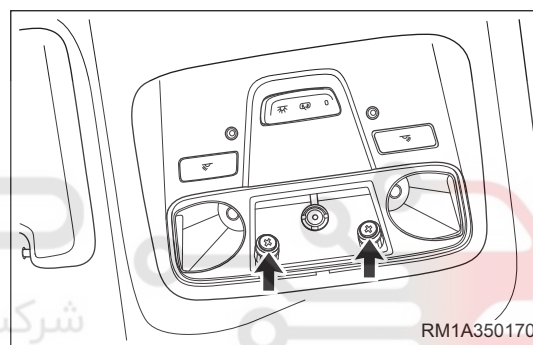
Front Dome Light Assembly

Removal

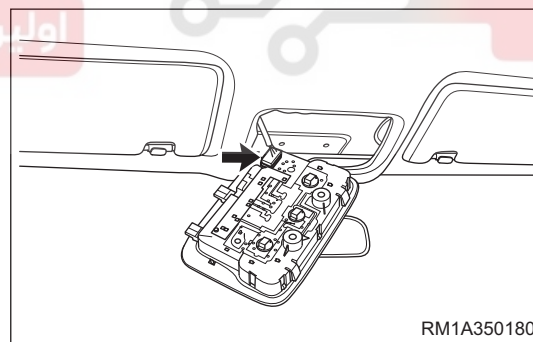
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front dome light assembly.
 - a. Using a flat tip screwdriver wrapped with protective tape, remove front dome light assembly cover.



- b. Remove 2 fixing screws (arrow) from front dome light assembly.
(Tightening torque: $2.5 \pm 0.5 \text{ N}\cdot\text{m}$)



- c. Disconnect front dome light assembly wire harness connector (arrow), and remove front dome light assembly.

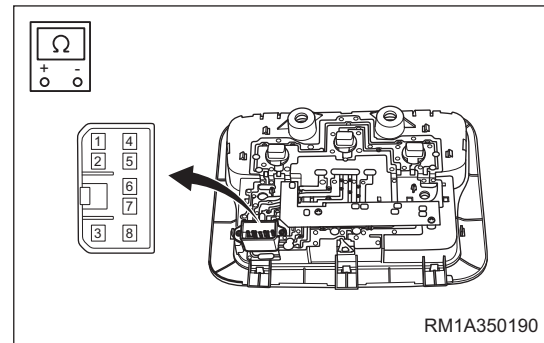


36 - LIGHTING SYSTEM

Inspection

1. Check the front dome light assembly.
 - a. Measure front dome light assembly according to table below.

Battery Connection	Condition	Specified Condition
Battery positive (+) - Terminal 5 Battery negative (-) - Terminal 1	Dome light switch in DOOR position	Dome light comes on
Battery positive (+) - Terminal 5 Battery negative (-) - Terminal 4	Dome light switch in ON position	Dome light comes on
Battery positive (+) - Terminal 5 Battery negative (-) - Terminal 4	Right map light switch in ON position	Right map light comes on
Battery positive (+) - Terminal 5 Battery negative (-) - Terminal 4	Left map light switch in ON position	Left map light comes on



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If result is not as specified, replace front dome light assembly.

Installation

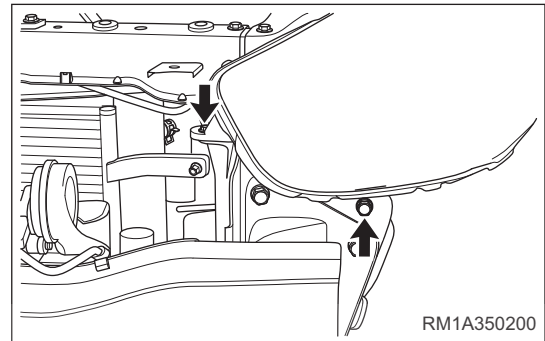
Installation is in the reverse order of removal.

Headlight Assembly

Removal

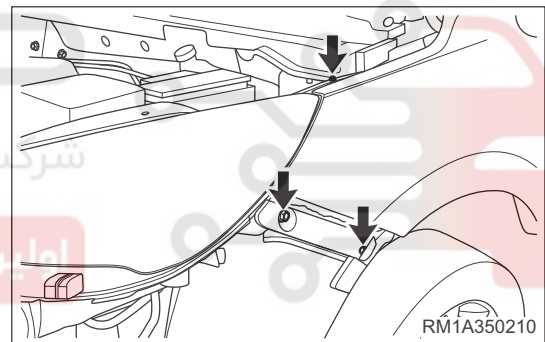
HINT:

- Use same procedures for right and left sides.
 - Removal procedures listed below are for left side.
1. Turn off all electrical equipment and the ignition switch.
 2. Disconnect the negative battery cable.
 3. Remove the front bumper assembly (See page 49-8).
 4. Remove the headlight assembly.
 - a. Remove 2 fixing bolts (arrow) from headlight assembly. (Tightening torque: 4.5 ± 0.5 N·m)

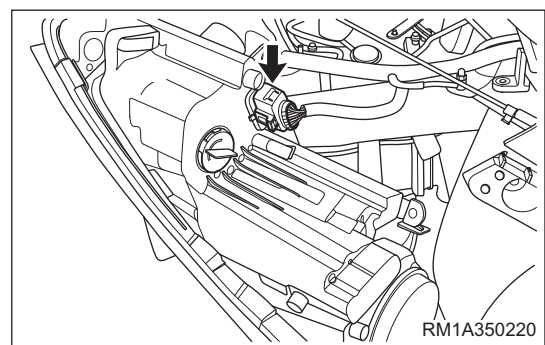


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- b. Remove 2 fixing bolts (arrow) and fixing clip (arrow) from front bumper left mounting bracket. (Tightening torque: 4.5 ± 1 N·m)



- c. Disconnect headlight assembly wire harness connector (arrow), and remove headlight assembly.



Installation

Installation is in the reverse order of removal.

CAUTION

- When installing headlight assembly, make sure headlight assembly is well fitted with hood, front wing and front bumper. Adjust as necessary.

Adjustment

1. Preparations:

- Tire inflation pressure comes up to standard.
- Vehicle is unloaded (besides spare tire and tool kit, it is generally specified to include weight of driver).
- Park vehicle on a level ground or a workplace.
- Keep lens surface of headlight assembly free from dirt.
- Check if power supply operates normally and bulbs are installed correctly.

Headlight beam can be adjusted up and down by using headlight leveling switch or adjustment area at rear of headlight. Always perform adjustment according to international standard.

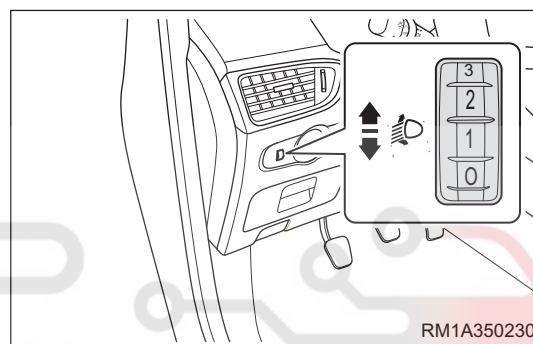
No.	Item	Standard
1	Up and down offset of left/right low beam light	570 - 630 mm
2	High beam light intensity	> 30000 cd

2. Headlight leveling can be adjusted according to number of passengers and loading condition. There are 4 adjustment bands to select on headlight leveling knob: 0, 1, 2 and 3.

Turn up: Raise headlight beam.

Turn down: Lower headlight beam.

Adjust light according to table below.



Passenger and Luggage Loading Condition		Knob Position
Occupant	Luggage Loading	
Driver	None	0
Driver + Front Passenger	None	0
Full Occupied	None	1
Full Occupied	Full Luggage Loading	2
Driver	Full Luggage Loading	3

CAUTION

- Whether headlight leveling is correct or not will directly affects driving safety. Be sure to adjust the beam with special tool according to related specification.

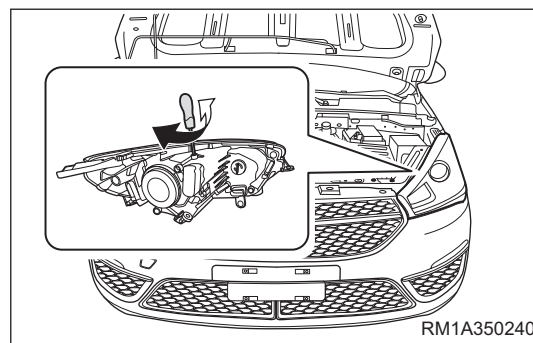
3. Manual headlight leveling: Headlight leveling can be changed by adjusting following areas manually as shown in illustration.

Adjustment method for left headlight

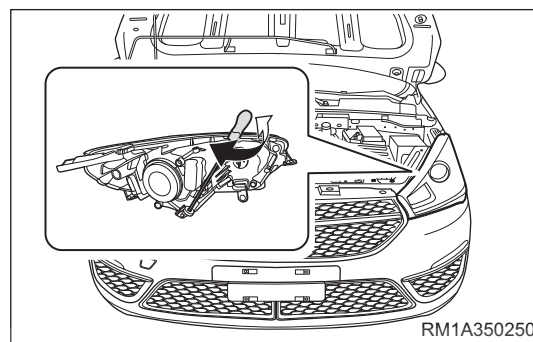
HINT:

Left headlight adjustment mechanism has symmetric distribution with right side. Left headlight adjustment method is taken as an example. Use same method to adjust right headlight.

- a. High/low beam up/down adjustment
When rotating screwdriver clockwise, beam moves downward;
When rotating screwdriver counterclockwise, beam moves upward.



- b. High/low beam left/right adjustment
When rotating screwdriver clockwise, beam moves to right;
When rotating screwdriver counterclockwise, beam moves to left.



دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

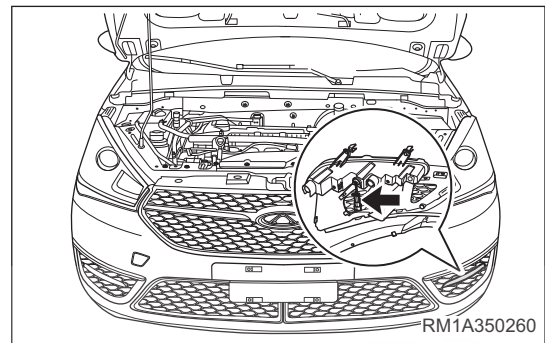


Daytime Running Light Assembly

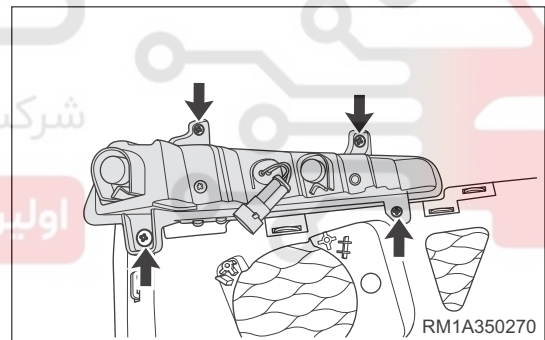
Removal

HINT:

- Use same procedures for right and left sides.
 - Procedures listed below are for left side.
1. Turn off all electrical equipment and the ignition switch.
 2. Disconnect the negative battery cable.
 3. Raise vehicle with a lift.
 4. Remove the front bumper assembly (See page 49-8).
 5. Remove the daytime running light assembly.
 - a. Disconnect the daytime running light assembly wire harness connector (arrow).



- b. Remove 4 fixing screws (arrow) from daytime running light assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)



- c. Remove daytime running light assembly from back of front bumper mounting hole.

Installation

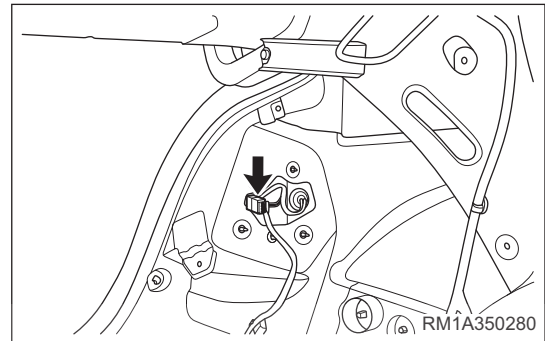
Installation is in the reverse order of removal.

Rear Combination Light Assembly (Fixed Part)

Removal

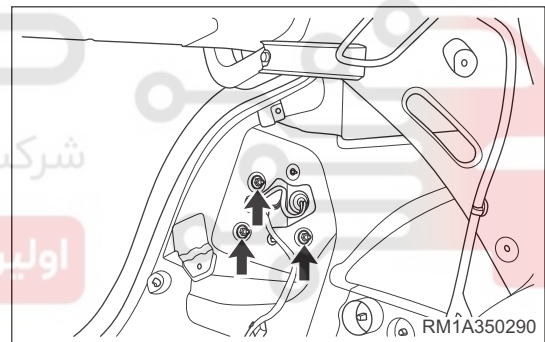
HINT:

- Use same procedures for rear right and rear left sides.
 - Procedures listed below are for rear left side.
1. Turn off all electrical equipment and the ignition switch.
 2. Disconnect the negative battery cable.
 3. Remove the rear combination light assembly (fixed part).
 - a. Open luggage compartment door, and remove luggage compartment left wheel house assembly.
 - b. Disconnect wire harness connector (arrow) from rear combination light assembly (fixed part).



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- c. Remove 3 fixing nuts (arrow) from rear combination light assembly (fixed part).
(Tightening torque: $3.5 \pm 0.5 \text{ N}\cdot\text{m}$)



- d. Remove the rear combination light assembly (fixed part).

Installation

Installation is in the reverse order of removal.

CAUTION

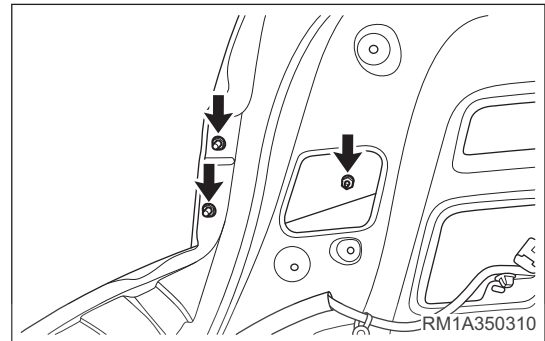
- When installing rear combination light assembly, make sure rear combination light assembly is well fitted with luggage compartment door and rear bumper. Adjust as necessary.

Rear Combination Light Assembly (Movable Part)

Removal

HINT:

- Use same procedures for rear right and rear left sides.
 - Removal procedures listed below are for rear left side.
1. Turn off all electrical equipment and the ignition switch.
 2. Disconnect the negative battery cable.
 3. Remove the rear combination light assembly (movable part).
 - a. Open luggage compartment door, and remove luggage compartment door trim assembly.
 - b. Remove 3 fixing nuts (arrow) from rear combination light assembly (movable part), and remove rear combination light assembly (movable part).
(Tightening torque: $3.0 \pm 0.5 \text{ N}\cdot\text{m}$)



Installation

Installation is in the reverse order of removal.

CAUTION

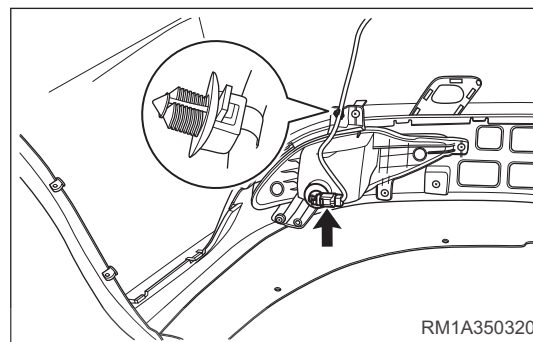
- When installing rear combination light assembly, make sure rear combination light assembly is well fitted with luggage compartment door and rear bumper. Adjust as necessary.

Rear Fog Light and Back-up Light

Removal

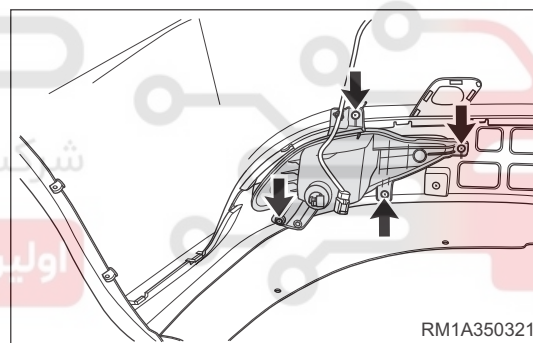
HINT:

- Use same procedures for rear fog light and back-up light.
 - Procedures listed below are for rear fog light.
1. Turn off all electrical equipment and the ignition switch.
 2. Disconnect the negative battery cable.
 3. Remove the rear bumper assembly (See page 49-21).
 4. Remove the rear fog light assembly.
 - a. Remove rear fog light connector (arrow) and wire harness clip from rear bumper.



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- b. Remove 4 fixing bolts (arrow) from rear fog light assembly, and remove rear fog light.



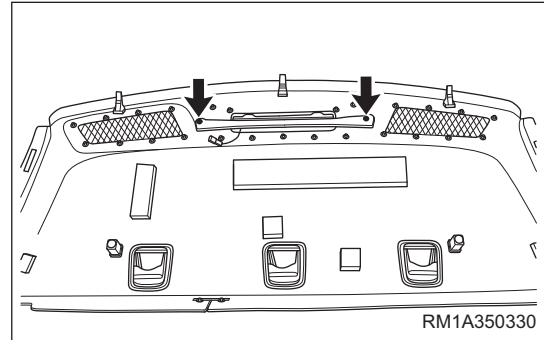
Installation

Installation is in the reverse order of removal.

High Mounted Stop Light Assembly

Removal

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the tonneau cover assembly (See page 50-33).
4. Remove the high mounted stop light assembly.
 - a. Remove 2 fixing screws (arrow) from high mounted stop light assembly.
(Tightening torque: $2.5 \pm 0.5 \text{ N}\cdot\text{m}$)



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- b. Remove high mounted stop light assembly from tonneau cover assembly.

Installation

Installation is in the reverse order of removal.

دیجیتال خودرو
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

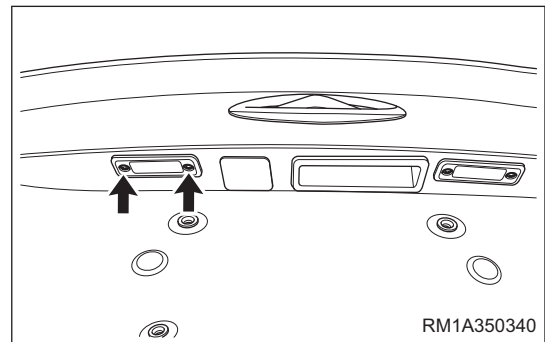


License Plate Light Assembly

Removal

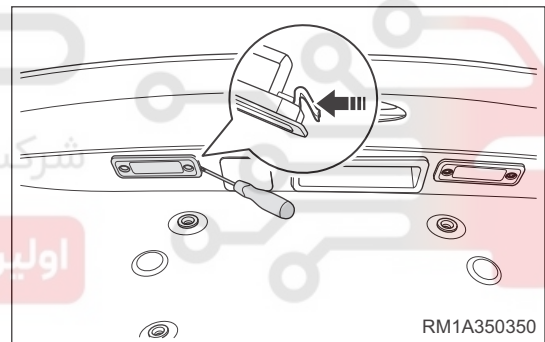
HINT:

- Use same procedures for right and left sides.
 - Procedures listed below are for left side.
1. Turn off all electrical equipment and the ignition switch.
 2. Disconnect the negative battery cable.
 3. Remove the license plate light assembly.
 - a. Remove 2 fixing screws (arrow) from license plate light cover, and remove license plate light cover together with bulb.
(Tightening torque: $1.2 \pm 0.2 \text{ N}\cdot\text{m}$)

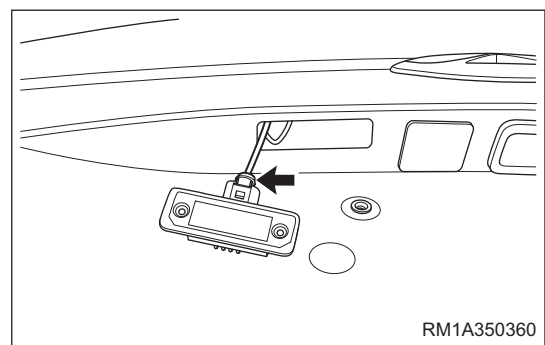


36

- b. Remove the luggage compartment door trim assembly.
- c. Push elastic claw of license plate light socket from metal plate hole, and detach license plate light socket.



- d. Disconnect license plate light wire harness connector, and remove license plate light socket.



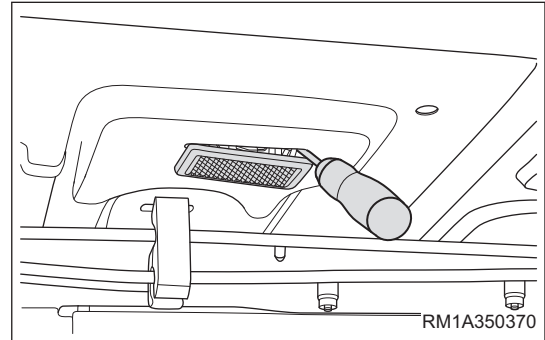
Installation

Installation is in the reverse order of removal.

Luggage Compartment Light Assembly

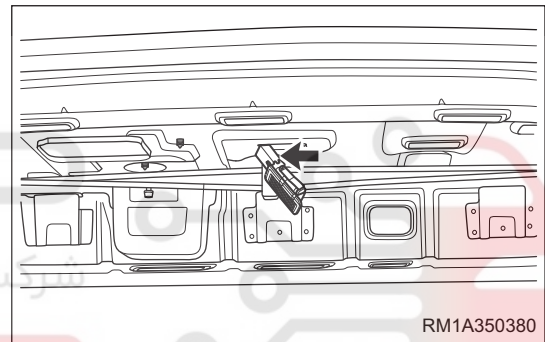
Removal

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the luggage compartment light assembly.
 - a. Open the luggage compartment door.
 - b. Using a screwdriver wrapped with protective tape, pry out one end of luggage compartment light carefully.



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- c. Disconnect the luggage compartment light assembly wire harness connector (arrow).



- d. Remove the luggage compartment light assembly.

Installation

Installation is in the reverse order of removal.

WIPER AND WASHER

GENERAL INFORMATION	37-3	Wiper Motor and Link Rod Assembly	37-24
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Diagnosis Procedure	37-9	Inspection	37-29
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Installation	37-21	Removal	37-34
Front Wiper Arm Assembly	37-22	Installation	37-34
Removal	37-22		
Installation	37-23		

37

دیجیتال خودرو

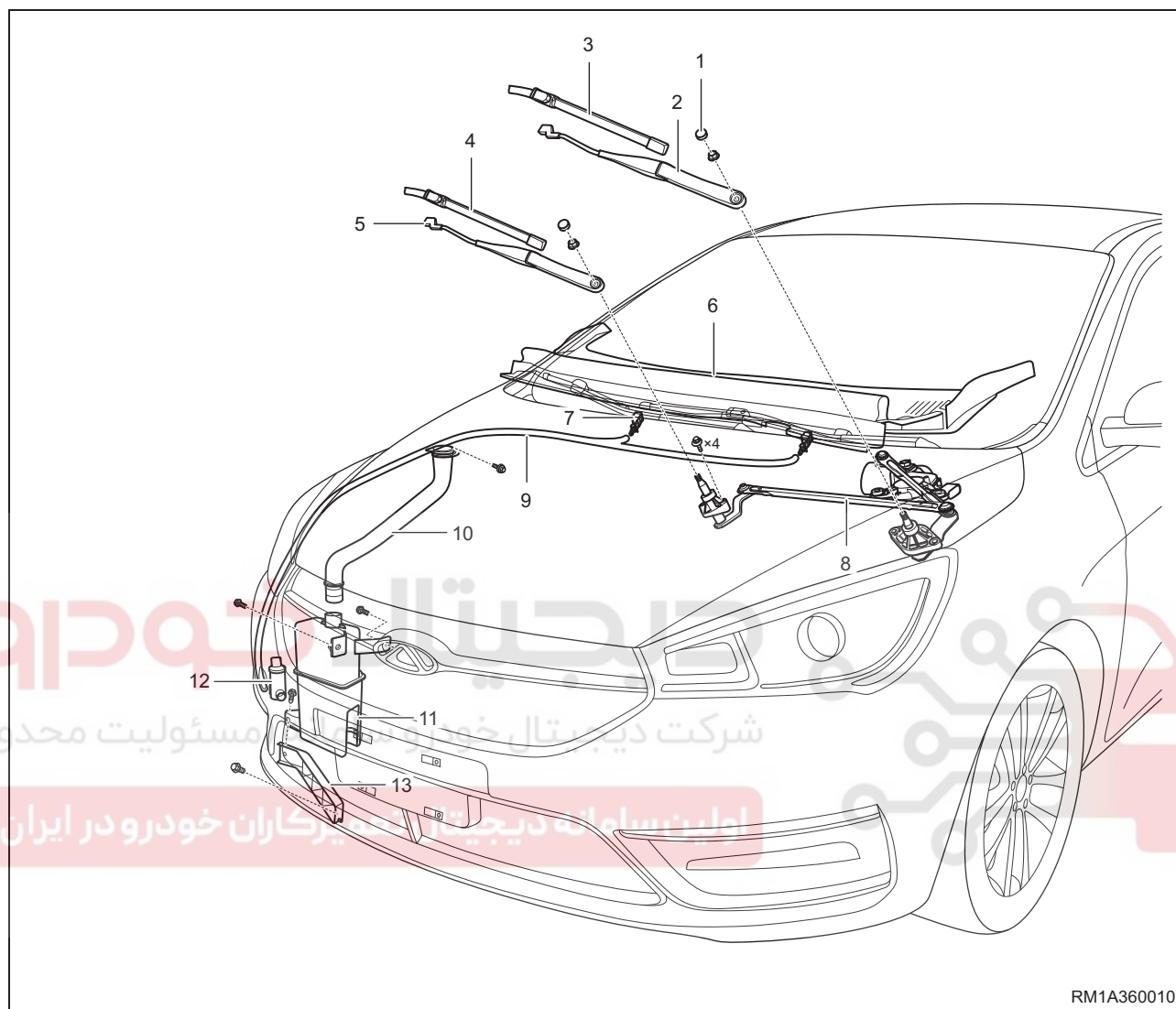
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



GENERAL INFORMATION

Description



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RM1A360010

1 - Front Wiper Arm Trim Cap	2 - Front Main Wiper Arm
3 - Front Wiper Arm Main Blade	4 - Front Wiper Arm Sub Blade
5 - Front Sub Wiper Arm	6 - Front Windshield Lower Support Assembly
7 - Front Washer Nozzle Assembly	8 - Wiper Motor and Link Rod Assembly
9 - Washer Line Assembly	10 - Guide Pipe Assembly
11 - Washer Fluid Reservoir Assembly	12 - Front Washer Pump Assembly
13 - Washer Fluid Reservoir Bracket	

Wiper and washer equipment, controlled by wiper switch assembly, is important for cleaning the front windshield assembly, and it only operates when ignition switch is ON. Driver can control all operations of wiper and washer by moving switch control lever.

Specifications

Torque Specifications

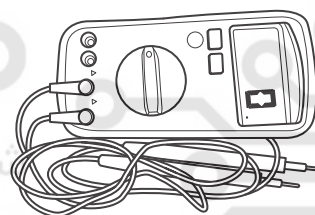
Description	Torque (N·m)
Front Wiper Arm Fixing Nut	15 ± 2.5
Wiper Motor and Link Rod Assembly Fixing Bolt	10 ± 1.5
Guide Pipe Assembly Fixing Bolt	7 ± 1.5
Washer Fluid Reservoir Assembly Upper Fixing Bolt	7 ± 1.5
Washer Fluid Reservoir Assembly Lower Fixing Bolt	5 ± 1.5
Fixing Bolt Between Washer Fluid Reservoir Bracket and Washer Fluid Reservoir Assembly	5 ± 1.5
Fixing Bolt Between Washer Fluid Reservoir Bracket and Body	7 ± 1.5

Tool

General Tool

37

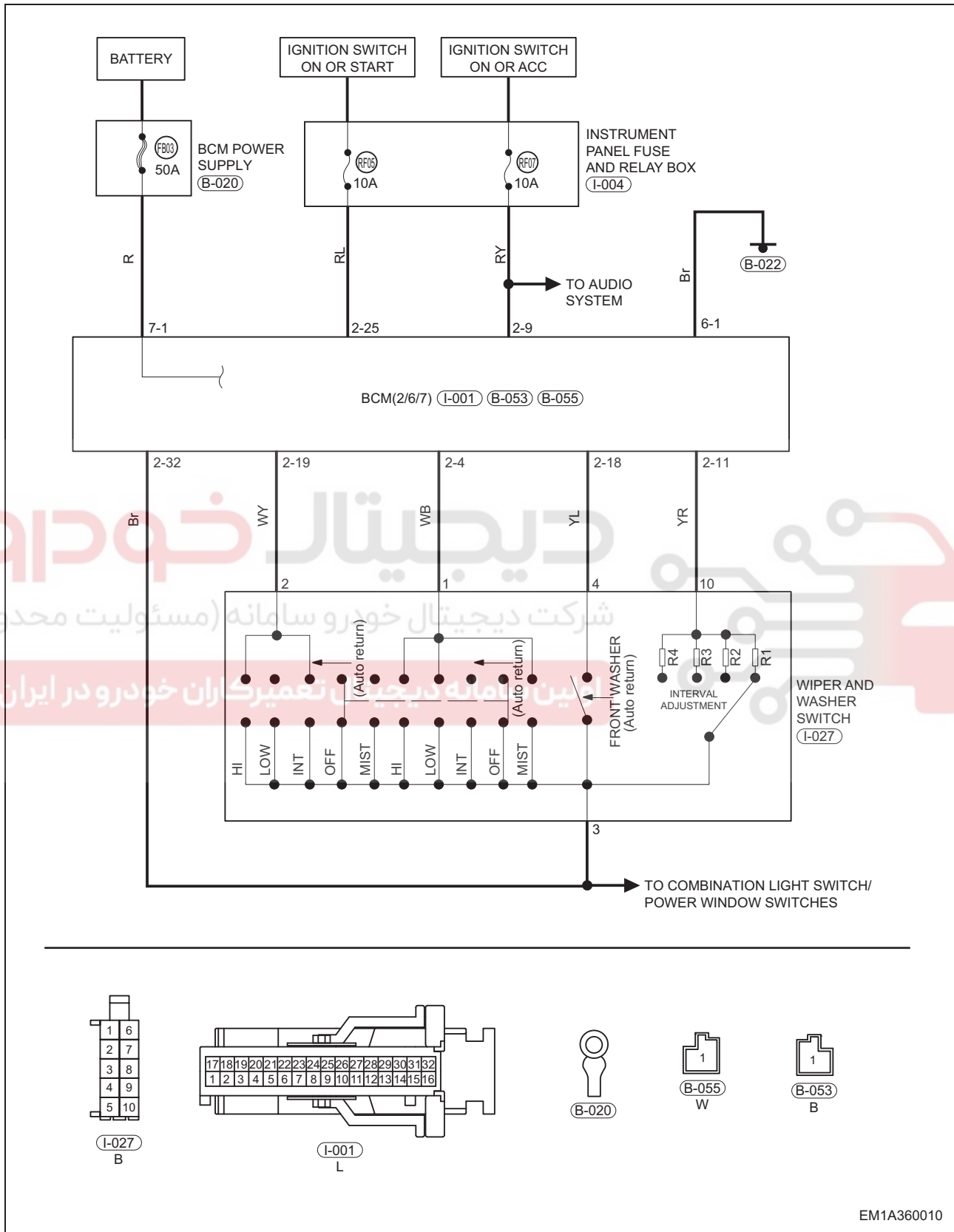
Digital Multimeter



RCH0000002

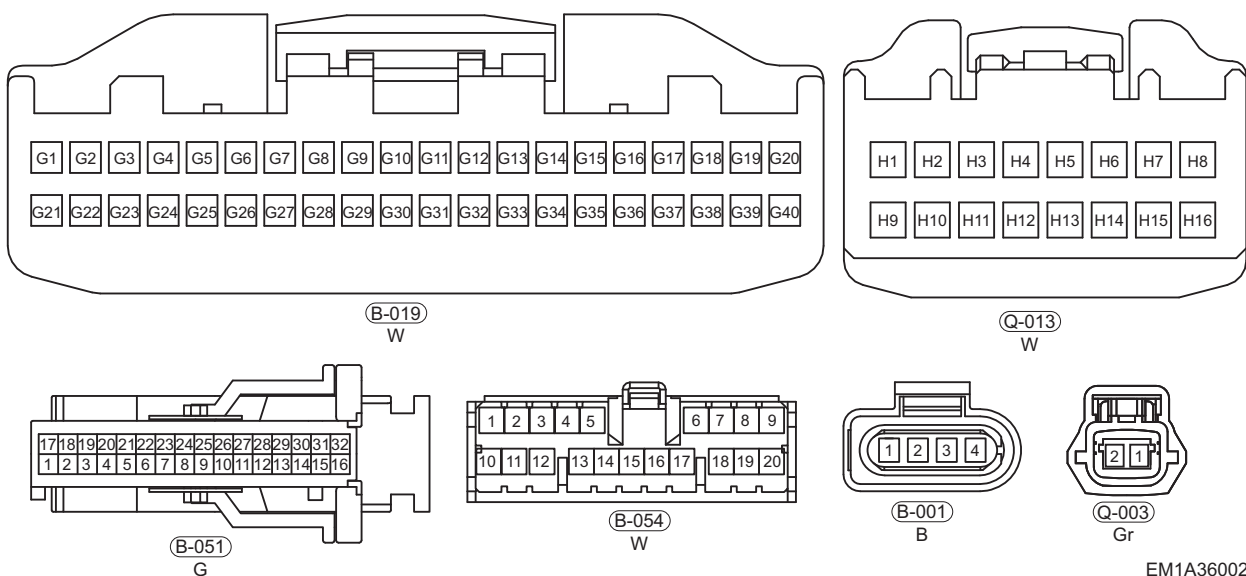
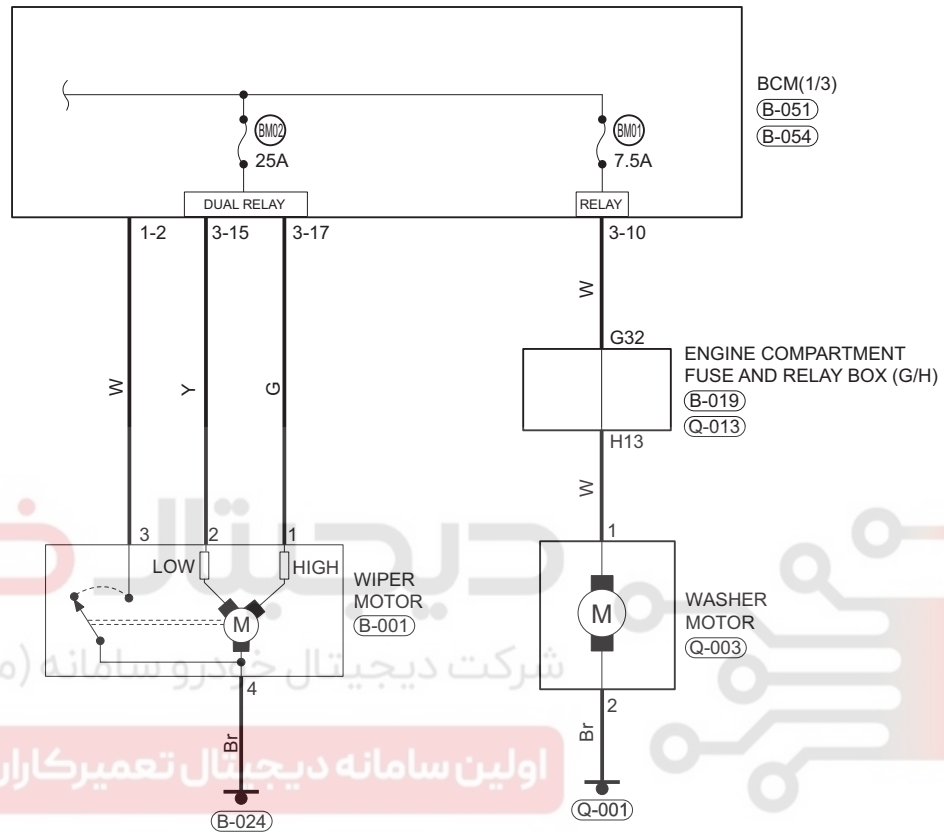
Circuit Diagram

Wiper and Washer Systems (Page 1 of 2)



Wiper and Washer Systems (Page 2 of 2)

37



DIAGNOSIS & TESTING

Problem Symptoms Table

HINT:

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

Symptom	Suspected Area	See page
Both front wiper and washer systems do not operate	Fuse	54-32
	Wiper switch assembly	37-20
	Wiper motor and link rod assembly	37-24
	Front washer pump	37-28
	BCM	-
	Wire harness or connector	-
Front wiper system does not operate in LO or HI	Wiper switch assembly	37-20
	Wiper motor and link rod assembly	37-24
	BCM	-
	Wire harness or connector	-
Front wiper system does not operate in INT	Wiper switch assembly	37-20
	Wiper motor and link rod assembly	37-24
	BCM	-
	Wire harness or connector	-
Front wiper system does not operate	Fuse	54-32
	Wiper switch assembly	37-20
	Wiper motor and link rod assembly	37-24
	BCM	-
	Wire harness or connector	-
Front wiper arm and blade do not return to original position when front wiper switch is off	Wiper motor and link rod assembly	37-24
	BCM	-
	Wire harness or connector	-

Diagnosis Tools

X-431 3G Diagnostic Tester

When connecting X-431 3G diagnostic tester:

- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC) for communication with vehicle.
- DLC is located at driver side instrument panel crossmember.
- DLC uses a trapezoidal design which can hold 16 terminals.

Digital Multimeter

When using digital multimeter:

- Troubleshoot electrical malfunctions and wire harness system.
- Look for basic fault.
- Measure voltage, current and resistance.

Diagnostic Help

1. Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
2. Confirm that the malfunction is current, and carry out diagnostic test and repair procedures.
3. If DTC cannot be deleted, the malfunction is current.
4. Only use a digital multimeter to measure the voltage of electronic system.
5. Refer to any Technical Bulletin that may apply to the malfunction.
6. Visually check the related wire harness.
7. Check and clean all wiper and washer systems grounds related to the latest DTC.
8. If multiple trouble codes were set, use circuit diagrams and look for any common ground circuit or power supply circuit applied to the DTC.

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Intermittent DTC Troubleshooting

If malfunction is intermittent, perform the followings:

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

Ground Inspection

Groundings are very important to entire circuit system, which are normal or not can seriously affect the entire circuit system. Ground points are often exposed to moisture, dirt and other corrosive environments. Corrosion (rust) and oxidation may increase load resistance. This situation will seriously affect normal operation of circuit. Check the ground points as follows:

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

Diagnosis Procedure

HINT:

Use following procedures to troubleshoot the wiper and washer systems.

1	Vehicle brought to workshop
----------	------------------------------------

NEXT

37

2	Check battery voltage
----------	------------------------------

Standard voltage: 11 to 14 V

If voltage is below 11 V, recharge or replace 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

NEXT

5	Problem repair (no DTC), then 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 been repaired

NEXT

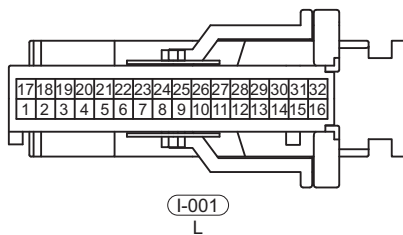
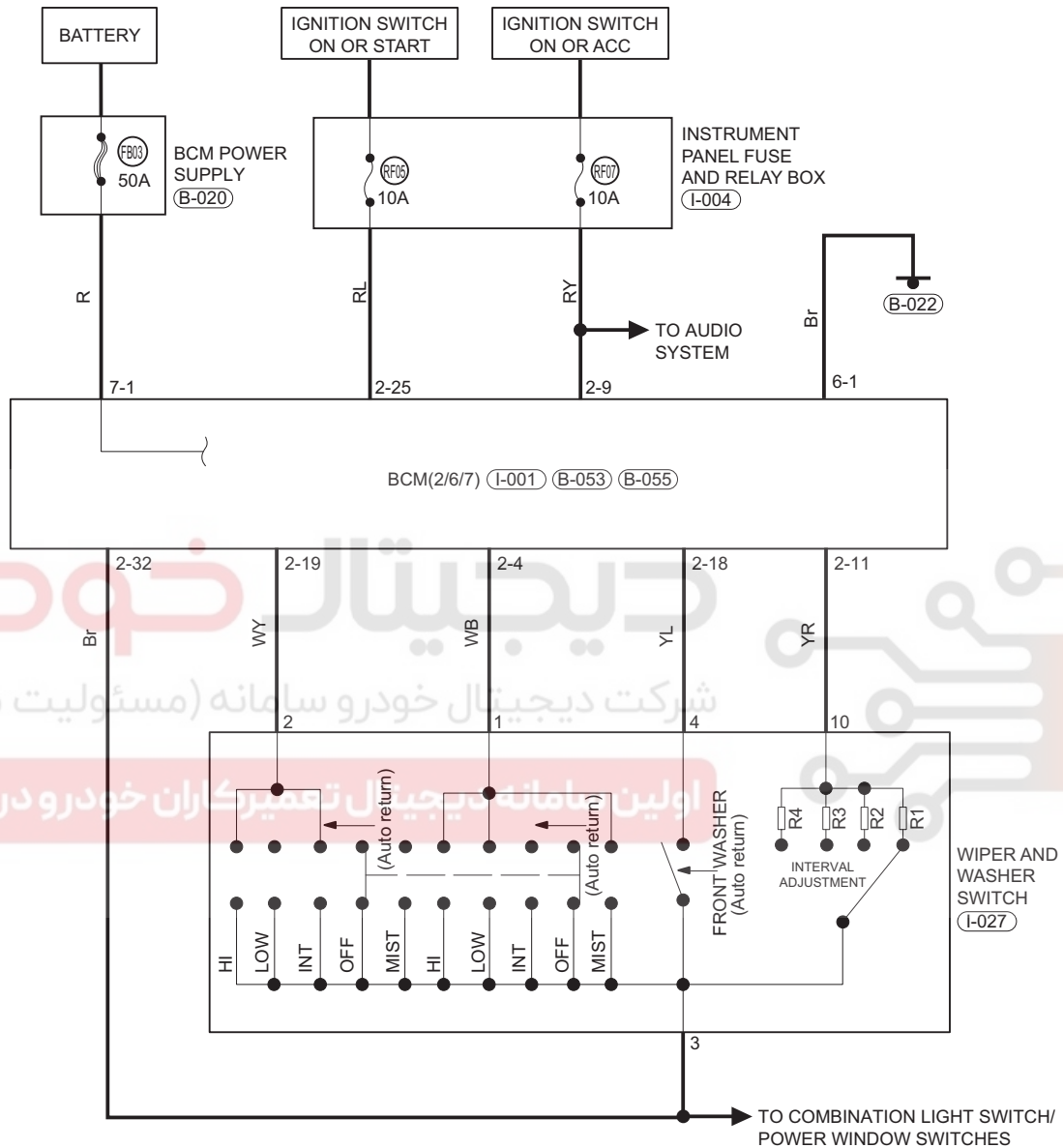
10 End

Diagnostic Trouble Code (DTC) Chart

DTC Code	DTC Definition
B1014-71	Front Wiper Low Speed Control Circuit Actuator Stuck
B1015-71	Front Wiper High Speed Control Circuit Actuator Stuck
B1017-71	Front Washer Control Circuit Actuator Stuck

DTC	B1014-71	Front Wiper Low Speed Control Circuit Actuator Stuck
-----	----------	--

DTC	B1015-71	Front Wiper High Speed Control Circuit Actuator Stuck
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EM1A360010

Self-diagnosis Detection Logic

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B1014-71	Front Wiper Low Speed Control Circuit Actuator Stuck	Ignition switch ON	- Wiper switch assembly - Wiper motor and link rod assembly - Wire harness or connector - Body Control Module (BCM)
B1015-71	Front Wiper High Speed Control Circuit Actuator Stuck		

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Using X-431 3G diagnostic tester, record and clear DTCs stored in Body Control Module (BCM).
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent (See page 37-8).

 CAUTION

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

Diagnosis Procedure

1

Check wiper switch assembly

- Remove wiper switch assembly from malfunctioning vehicle, and install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation condition of wiper switch assembly.

NG

Replace wiper switch assembly

OK

2

Check wiper motor and link rod assembly

- Remove wiper motor and link rod assembly from malfunctioning vehicle, and install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.

d. Check operation condition of wiper motor and link rod assembly.

NG

Replace wiper motor and link rod assembly

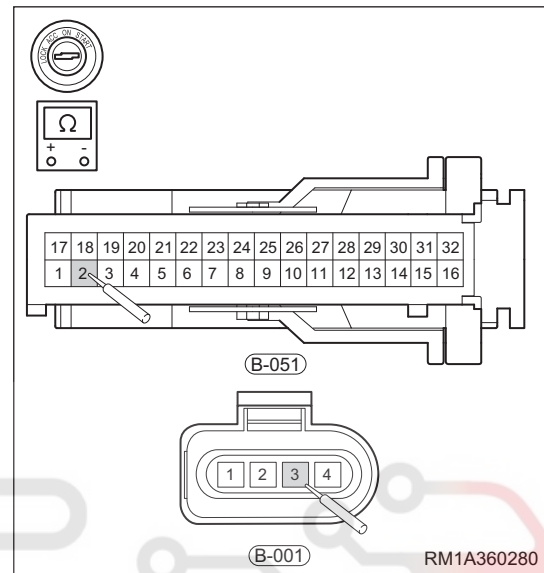
OK

3

Check body wire harness and connector

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connectors B-051 and B-001.
- Using a digital multimeter, check for continuity between body wire harness connectors B-051 and B-001 according to table below.

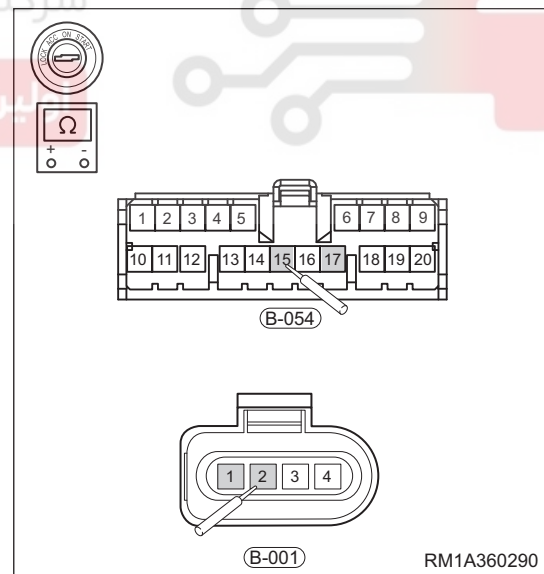
Multimeter Connection	Condition	Specified Condition
B-051 (2) - B-001 (3)	Always	Continuity



37

- Disconnect body wire harness connectors B-054 and B-001.
- Using a digital multimeter, check for continuity between body wire harness connectors B-054 and B-001 according to table below.

Multimeter Connection	Condition	Specified Condition
B-054 (15) - B-001 (2)	Always	Continuity
B-054 (17) - B-001 (1)	Always	Continuity



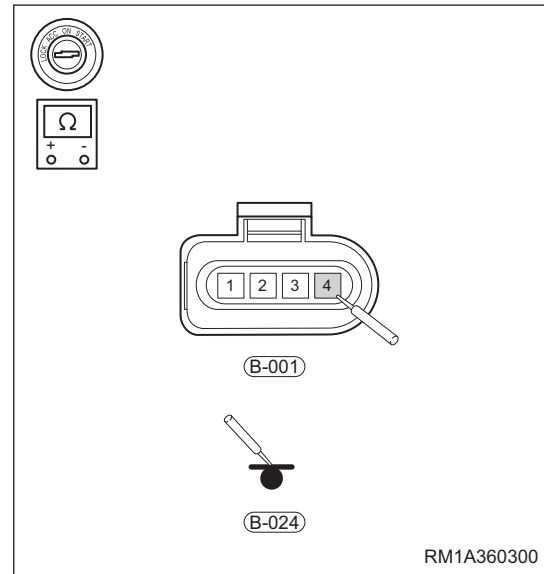
37 - WIPER AND WASHER

- g. Disconnect body wire harness connector B-001 and ground point B-024.
- h. Using a digital multimeter, check for continuity between body wire harness connector B-001 and ground point B-024 according to table below.

Multimeter Connection	Condition	Specified Condition
B-001 (4) - B-024	Always	Continuity

NG

Repair or replace body wire harness and connector



OK

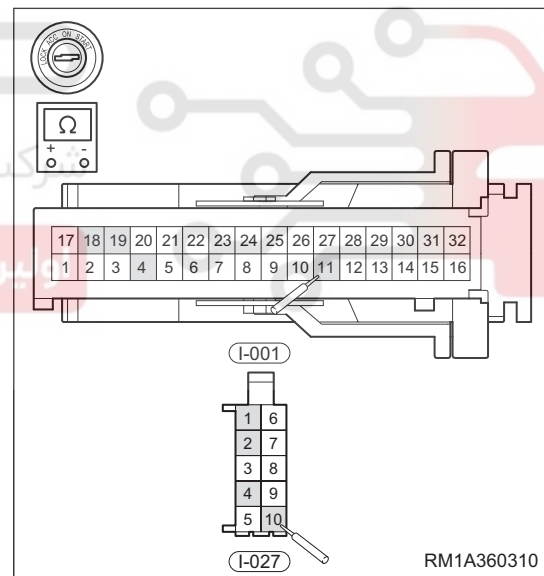
37

4

Check instrument panel wire harness and connector

- a. Turn ignition switch to LOCK.
- b. Disconnect the negative battery cable.
- c. Disconnect instrument panel wire harness connectors I-001 and I-027.
- d. Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-001 and I-027 according to table below.

Multimeter Connection	Condition	Specified Condition
I-001 (11) - I-027 (10)	Always	Continuity
I-001 (19) - I-027 (2)	Always	Continuity
I-001 (4) - I-027 (1)	Always	Continuity
I-001 (18) - I-027 (4)	Always	Continuity

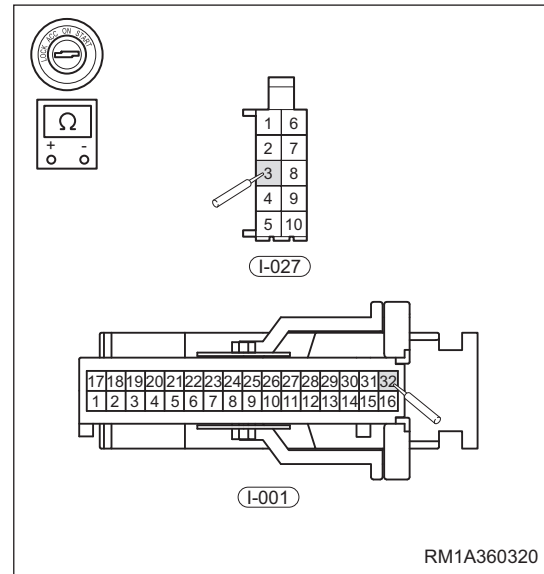


- e. Disconnect instrument panel wire harness connectors I-027 and I-001.
- f. Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-027 and I-001 according to table below.

Multimeter Connection	Condition	Specified Condition
I-027 (3) - I-001 (32)	Always	Continuity

NG

Repair or replace instrument panel wire harness and connector



OK

5

Reconfirm DTCs

37

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

NG

Replace Body Control Module (BCM)

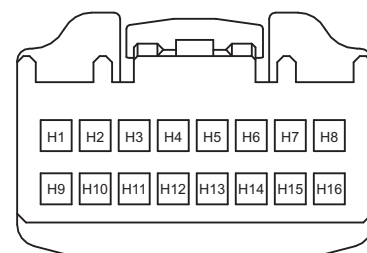
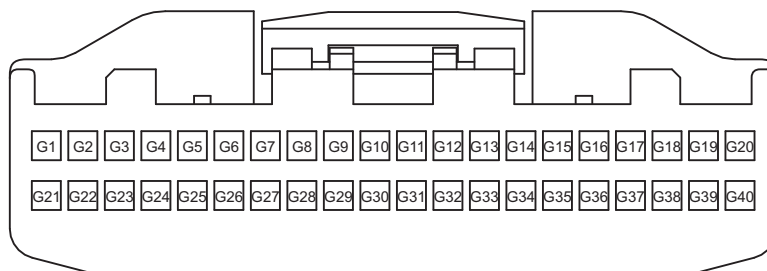
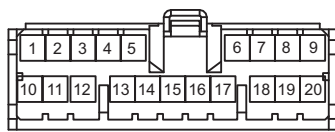
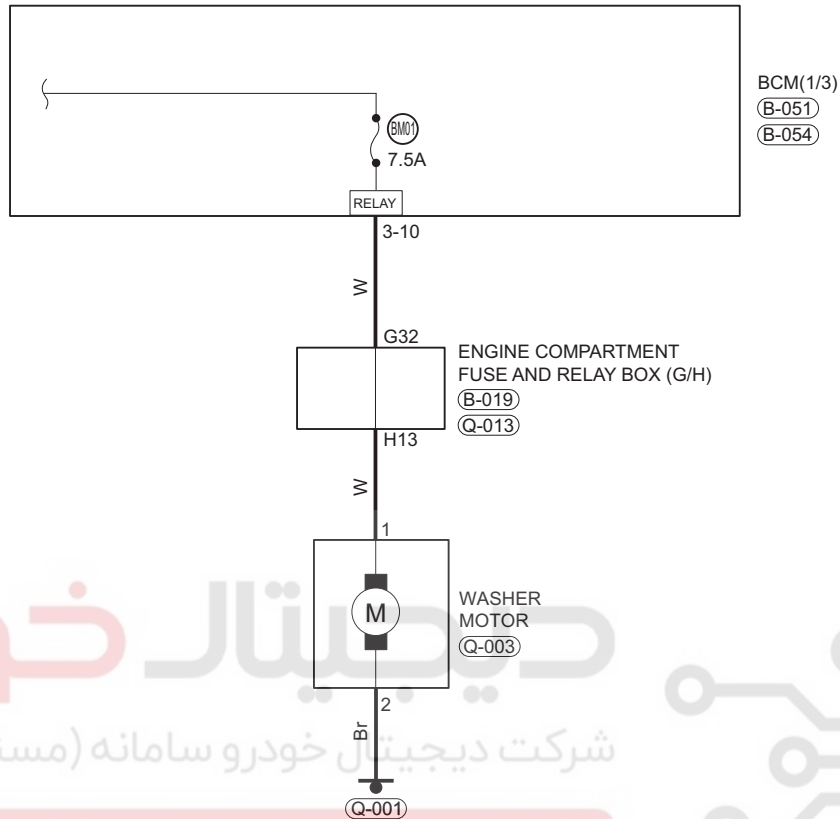
OK

System is normal

DTC

B1017-71

Front Washer Control Circuit Actuator Stuck



EM1A360030

Self-diagnosis Detection Logic

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B1017-71	Front Washer Control Circuit Actuator Stuck	Ignition switch ON	- Front washer pump assembly - Wire harness or connector - Body Control Module (BCM)

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Using X-431 3G diagnostic tester, record and clear DTCs stored in Body Control Module (BCM).
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 37-8](#)).

 CAUTION

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

37

Diagnosis Procedure

1	Check front washer pump assembly
---	----------------------------------

- Remove front washer pump assembly from malfunctioning vehicle, and install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check condition of front washer pump assembly.

NG

Replace front washer pump assembly

OK

2

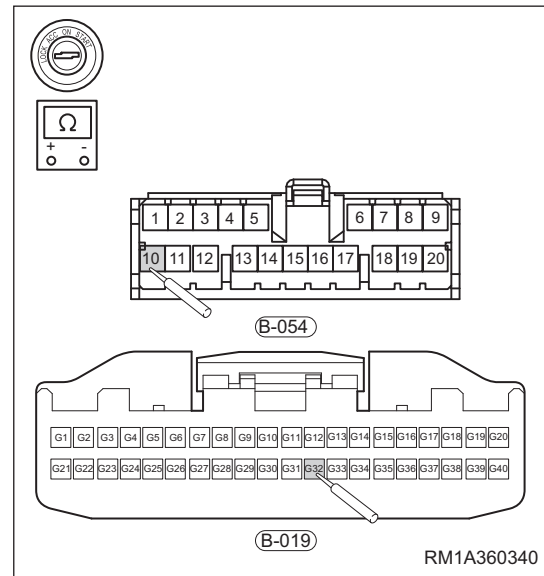
Check body wire harness and connector

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connectors B-019 and B-054.
- Using a digital multimeter, check for continuity between body wire harness connectors B-019 and B-054 according to table below.

Multimeter Connection	Condition	Specified Condition
B-019 (G32) - B-054 (10)	Always	Continuity

NG

Repair or replace body wire harness and connector



OK

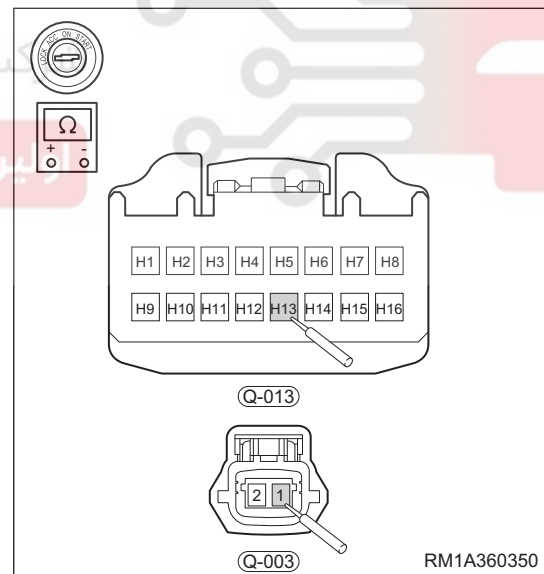
37

3

Check front bumper wire harness and connector

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect front bumper wire harness connectors Q-003 and Q-013.
- Using a digital multimeter, check for continuity between front bumper wire harness connectors Q-003 and Q-013 according to table below.

Multimeter Connection	Condition	Specified Condition
Q-003 (1) - Q-013 (H13)	Always	Continuity

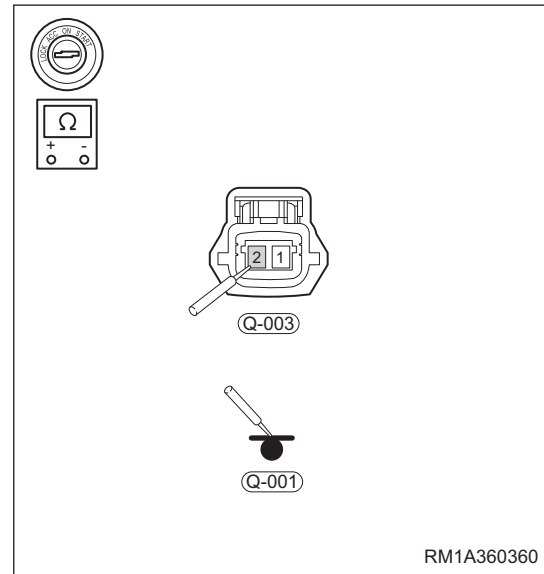


- e. Disconnect front bumper wire harness connector Q-003 and ground point Q-001.
- f. Using a digital multimeter, check for continuity between front bumper wire harness connector Q-003 and ground point Q-001 according to table below.

Multimeter Connection	Condition	Specified Condition
Q-003 (2) - Q-001	Always	Continuity

NG

Repair or replace front bumper wire harness and connector



OK

4

Reconfirm DTCs

37

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

NG

Replace Body Control Module (BCM)

OK

System is normal

ON-VEHICLE SERVICE

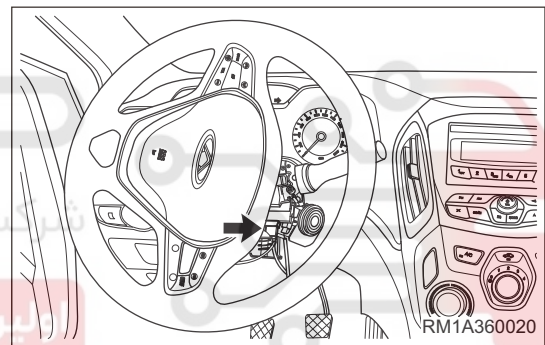
Wiper Switch Assembly

Removal

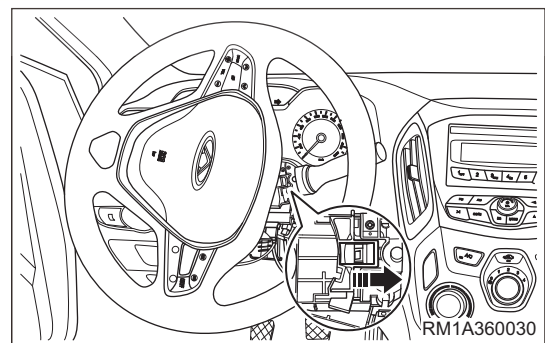
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing wiper switch assembly.
- Appropriate force should be applied when removing wiper switch assembly. Be careful not to operate roughly.
- Try to prevent interior and body paint surface from being scratched, when removing wiper switch assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the combination switch cover (See page 28-13).
4. Remove the wiper switch assembly.
 - a. Disconnect the wiper switch assembly connector (arrow).



- b. As shown in illustration, press claws on wiper switch assembly and remove wiper switch assembly by gently sliding it outward.

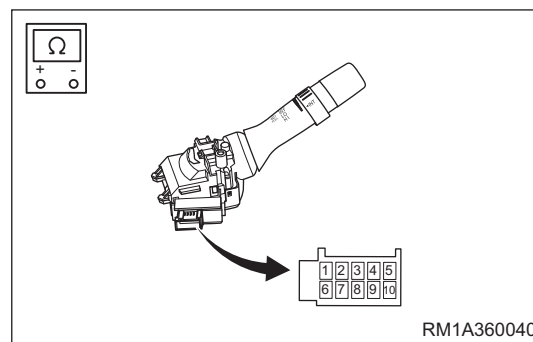


Inspection

1. Check the wiper switch assembly.
 - a. Using a digital multimeter, check for continuity between terminals of wiper switch assembly according to table below.

Multimeter Connection	Switch Condition	Specified Condition
Terminal 1 - Terminal 3	MIST	Continuity
Terminal 2 - Terminal 3	INT	Continuity
Terminal 1 - Terminal 3	LO	Continuity
Terminals 1, 2 - Terminal 3	HI	Continuity
Terminal 3 - Terminal 4	FRONT WASHER	Continuity

If result is not as specified, replace wiper switch assembly.



Installation

Installation is in the reverse order of removal.

CAUTION

- Always operate carefully to prevent components from being damaged, when installing wiper switch assembly.
- Install connectors in place when installing wiper switch assembly.
- Check wiper switch for proper operation after installing wiper switch assembly.

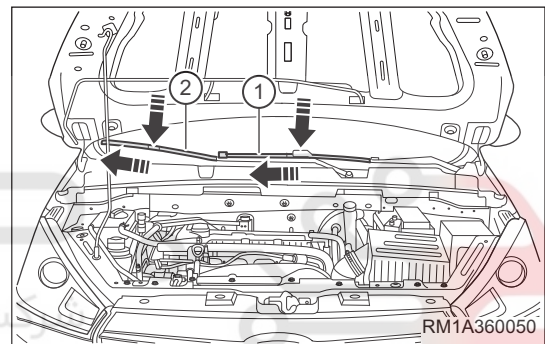
Front Wiper Arm Assembly

Removal

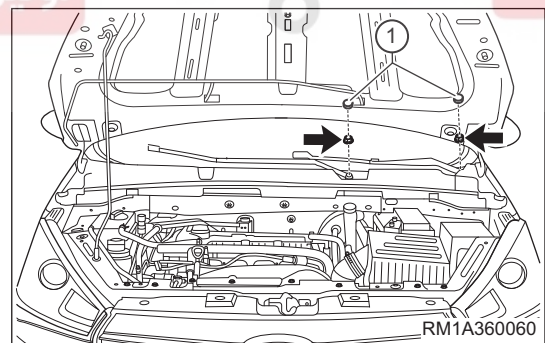
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing front wiper arm assembly.
- Appropriate force should be applied when removing front wiper arm assembly. Be careful not to operate roughly.
- Try to prevent front windshield assembly from being scratched, when removing front wiper arm assembly.

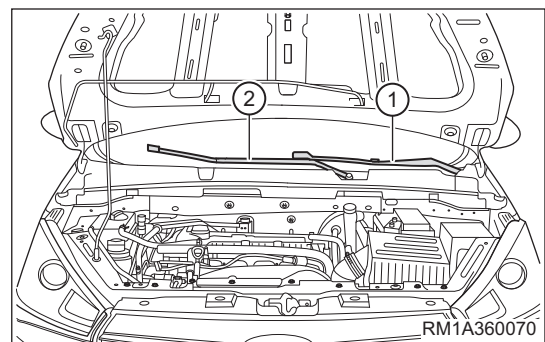
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Open the hood.
4. Remove the front wiper arm blade.
 - a. As shown in illustration, press claws on front wiper arm blade, and remove front wiper arm main blade (1) and front wiper arm sub blade (2) by gently sliding them outward.



5. Remove the front wiper arm.
 - a. Using a screwdriver wrapped with protective tape, remove front wiper arm trim caps (1).
 - b. Remove 2 fixing nuts (arrow) from front wiper arm. (Tightening torque: 15 ± 2.5 N·m)



- c. Remove front main wiper arm (1) and front sub wiper arm (2).



Installation

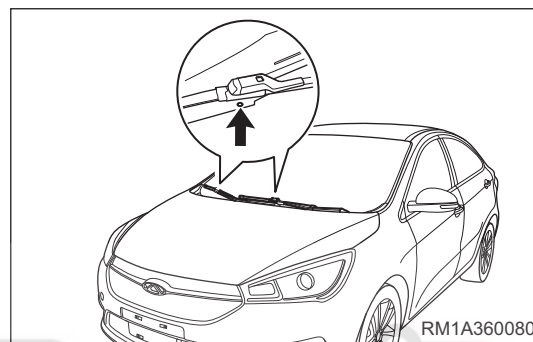
Installation is in the reverse order of removal.

CAUTION

- Always operate carefully to prevent other components from being damaged, when installing front wiper arm assembly.
- Be sure to tighten fixing nuts to specified torque, when installing front wiper arm assembly.
- Check front wiper arm assembly for proper operation, after installing front wiper arm assembly.

HINT:

- Always adjust front wiper arm assembly to a proper position during installation.
- Pay attention to locating points on front windshield assembly during installation. Wiper arm blade should be pressed against locating points as shown in illustration.



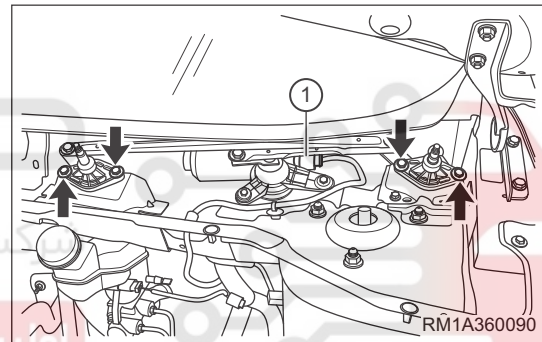
Wiper Motor and Link Rod Assembly

Removal

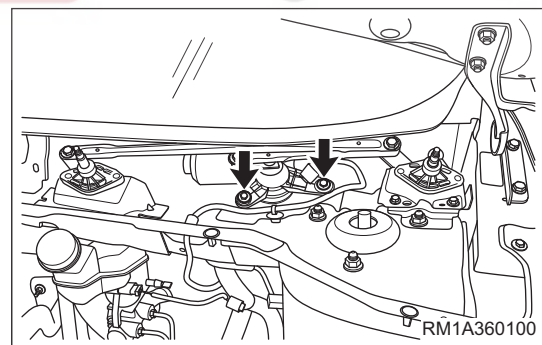
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing wiper motor and link rod assembly.
- Appropriate force should be applied when removing wiper motor and link rod assembly. Be careful not to operate roughly.
- Try to prevent body paint surface from being scratched, when removing wiper motor and link rod assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front wiper arm assembly (See page 37-22).
4. Remove the front windshield lower support assembly (See page 49-28).
5. Remove the wiper motor and link rod assembly.
 - a. Disconnect connector (1) from wiper motor and link rod assembly.
 - b. Remove 4 fixing bolts (arrow) from wiper motor and link rod assembly.
(Tightening torque: $10 \pm 1.5 \text{ N}\cdot\text{m}$)



- c. Remove 2 fixing bolts from wiper motor, and remove wiper motor and link rod assembly.



Inspection

1. Check the front wiper motor assembly.
 - a. Check the LO operation.

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 2	Motor running at low speed (LO)
Battery negative (-) → Terminal 4	

If result is not as specified, replace wiper motor and link rod assembly.

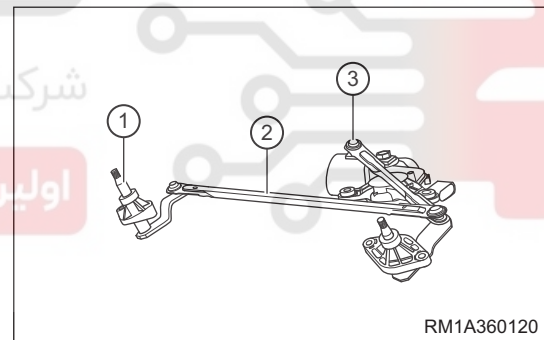
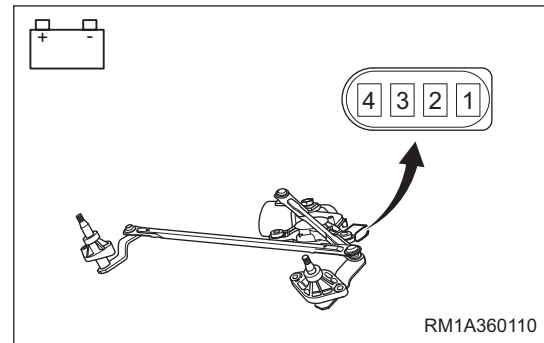
- b. Check the HI operation.

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1	Motor running at high speed (HI)
Battery negative (-) → Terminal 4	

If result is not as specified, replace wiper motor and link rod assembly.

2. Check the wiper link rod.

- a. Check pivot (1) for looseness or falling off, link rod (2) for deformation or breakage, and shaft sleeve (3) for seizure. Replace wiper motor and link rod assembly if necessary.



Installation

Installation is in the reverse order of removal.

CAUTION

- Always operate carefully to prevent other components from being damaged, when installing wiper motor and link rod assembly.
- Adjust and make sure wiper motor and link rod assembly is at original position, before installing wiper motor and link rod assembly, otherwise, wiper system cannot operate normally.
- Install connector in place and tighten fixing bolts and nuts to specified torque, when installing wiper motor and link rod assembly.
- Check wiper system for proper operation, after installing wiper motor and link rod assembly.

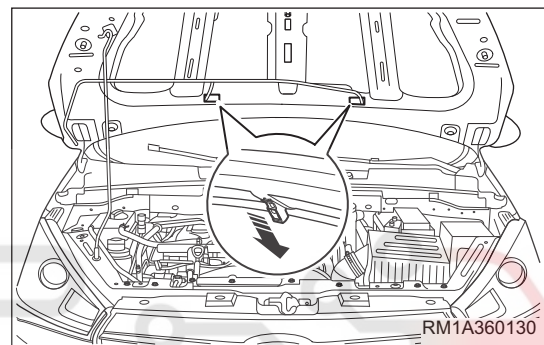
Front Washer Nozzle Assembly

Removal

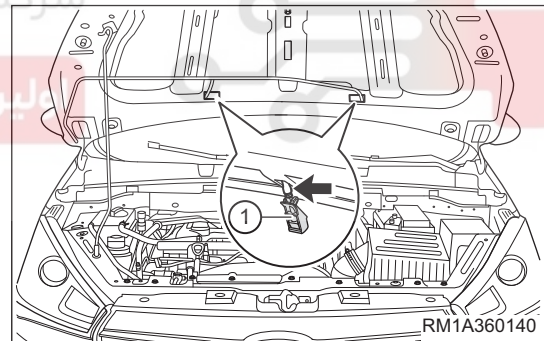
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing front washer nozzle assembly.
- Appropriate force should be applied when removing front washer nozzle assembly. Be careful not to operate roughly.
- Try to prevent body paint surface from being scratched, when removing front washer nozzle assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front washer nozzle assembly.
 - a. Loosen front washer nozzle assembly in direction of arrow as shown in illustration.

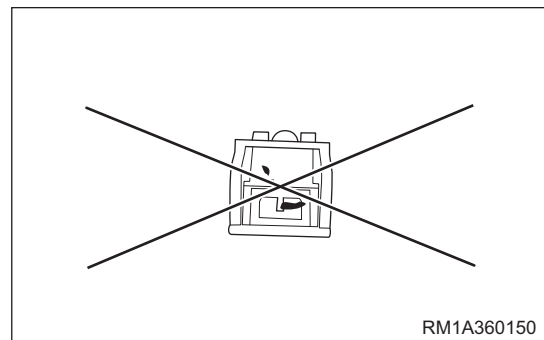


- b. Disconnect joint (arrow) between washer line and front washer nozzle assembly, and remove front washer nozzle assembly (1).



Inspection

1. Check the front washer nozzle assembly.
 - a. Check front washer nozzle for blockage, deformation or damage. Replace front washer nozzle if necessary.



Installation

Installation is in the reverse order of removal.

CAUTION

- Always operate carefully to prevent components from being damaged, when installing front washer nozzle assembly.
- Install washer line joints in place, when installing front washer nozzle assembly.
- Check front washer nozzle for proper operation, after installing front washer nozzle assembly.

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



Front Washer Pump Assembly

Removal

CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing front washer pump assembly.
- Appropriate force should be applied when removing front washer pump assembly. Be careful not to operate roughly.
- Try to prevent body paint surface from being scratched, when removing front washer pump assembly.

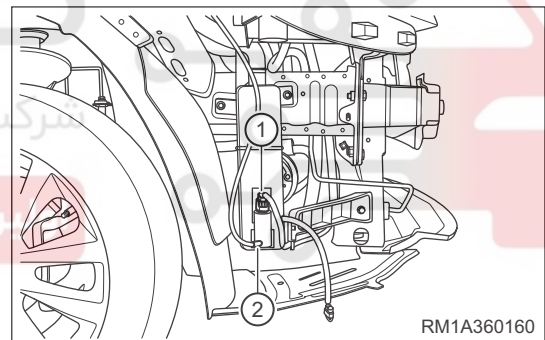
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front bumper assembly (See page 49-8).
4. Remove the front washer pump assembly.

CAUTION

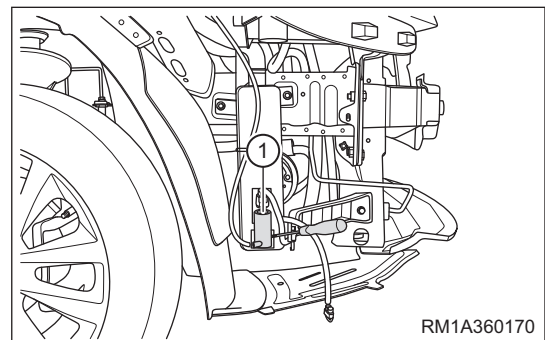
- Put a container under washer pump to collect washer fluid, before removing front washer pump assembly.

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- a. Disconnect the front washer pump connector (1).
- b. Disconnect joint (2) between washer line and front washer pump.



- c. Using a screwdriver wrapped with protective tape, remove front washer pump assembly (1).



Installation

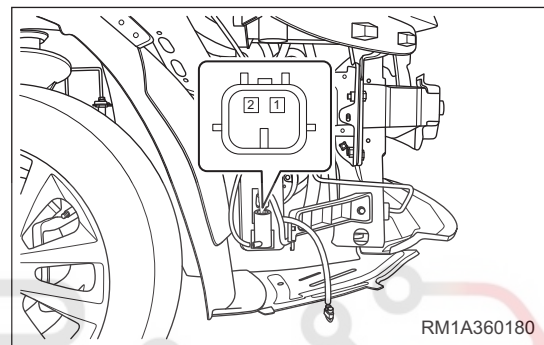
Installation is in the reverse order of removal.

CAUTION

- Always operate carefully to prevent components from being damaged, when installing front washer pump assembly.
- Install washer line joints in place, when installing front washer pump assembly.
- Check washer system for proper operation, after installing front washer pump assembly.

Inspection

1. Check the front washer pump assembly.
 - a. Fill washer fluid reservoir assembly with washer fluid.
 - b. Connect positive (+) battery lead to terminal 1 of front washer pump assembly and negative (-) battery lead to terminal 2.
 - c. Check that washer fluid flows out of front washer pump assembly.
OK: Washer fluid flows out of front washer pump assembly.



If result is not as specified, replace front washer pump assembly.

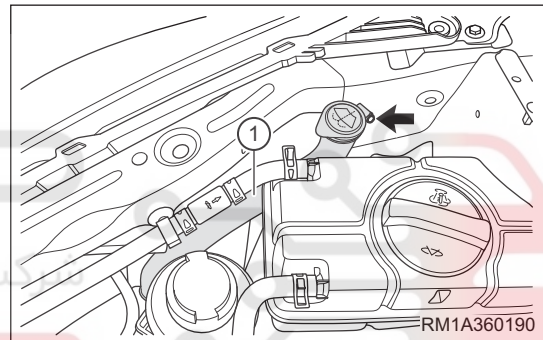
Washer Fluid Reservoir Assembly

Removal

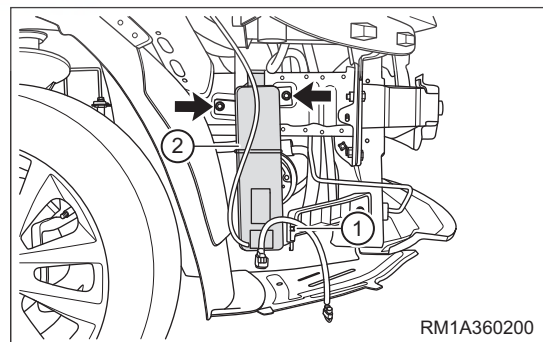
CAUTION

- Be sure to wear necessary safety equipment to prevent accidents, when removing washer fluid reservoir assembly.
- Appropriate force should be applied when removing washer fluid reservoir assembly. Be careful not to operate roughly.
- Try to prevent body paint surface from being scratched, when removing washer fluid reservoir assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front bumper assembly (See page 49-8).
4. Remove the front washer pump assembly (See page 37-28).
5. Remove the guide pipe assembly.
 - a. Remove fixing bolt (arrow) from guide pipe assembly. (Tightening torque: $7 \pm 1.5 \text{ N}\cdot\text{m}$)
 - b. Remove guide pipe assembly (1) from washer fluid reservoir assembly.

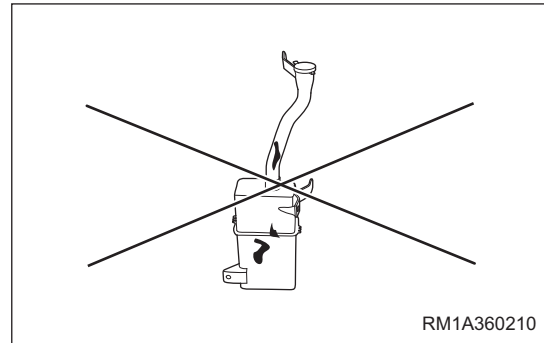


6. Remove the washer fluid reservoir assembly.
 - a. Remove 2 fixing bolts (arrow) from upper part of washer fluid reservoir assembly. (Tightening torque: $7 \pm 1.5 \text{ N}\cdot\text{m}$)
 - b. Remove fixing bolt (1) from lower part of washer fluid reservoir assembly, and remove washer fluid reservoir assembly (2). (Tightening torque: $5 \pm 1.5 \text{ N}\cdot\text{m}$)



Inspection

1. Check the washer fluid reservoir assembly.
 - a. Check washer fluid reservoir assembly for leakage, deformation or damage. Replace washer fluid reservoir assembly if necessary.
 - b. Check internal and external sides of washer fluid reservoir for dirt. Remove dirt or replace washer fluid reservoir assembly if necessary.
 - c. Check grommet for damage. Replace grommet if necessary.

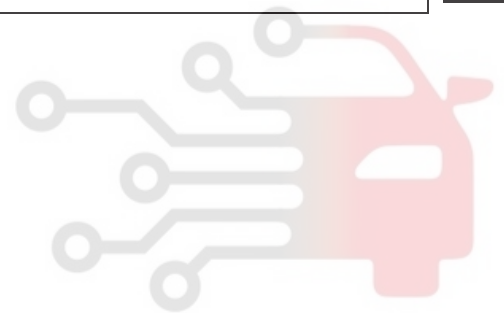


Installation

Installation is in the reverse order of removal.

CAUTION

- Always operate carefully to prevent components from being damaged, when installing washer fluid reservoir assembly.
- Tighten fixing bolts to specified torque, when installing washer fluid reservoir assembly.
- Install washer line joints in place, when installing washer fluid reservoir assembly.



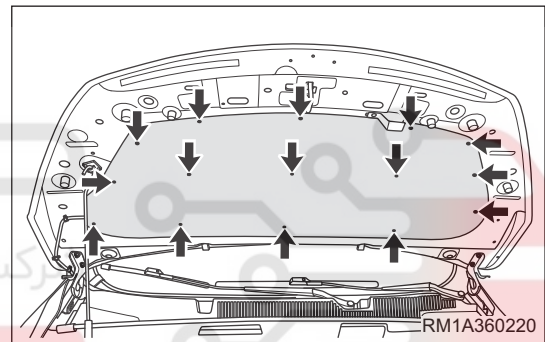
Washer Line Assembly

Removal

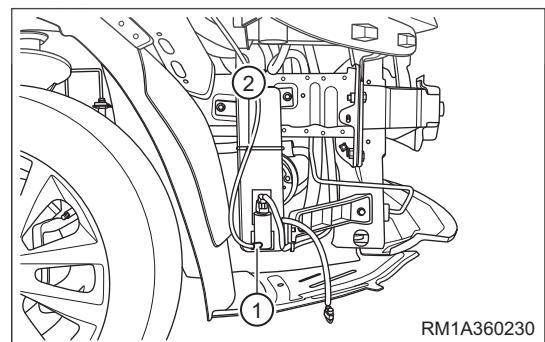
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing washer line assembly.
- Appropriate force should be applied when removing washer line assembly. Be careful not to operate roughly.
- Try to prevent body paint surface from being scratched, when removing washer line assembly.

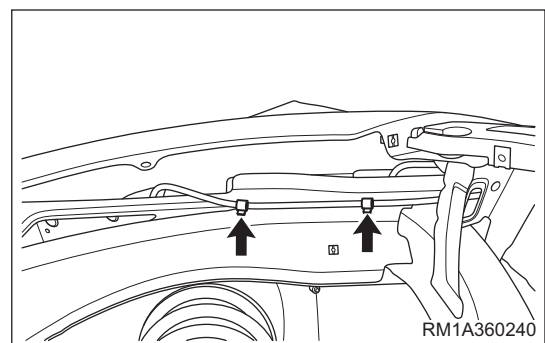
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front bumper assembly (See page 49-8).
4. Remove the front wheel house protector assembly (See page 49-17).
5. Remove the front washer nozzle assembly (See page 37-26).
6. Remove the hood sound-absorbing pad.
 - a. Remove clips (arrow) from hood sound-absorbing pad, and remove hood sound-absorbing pad.



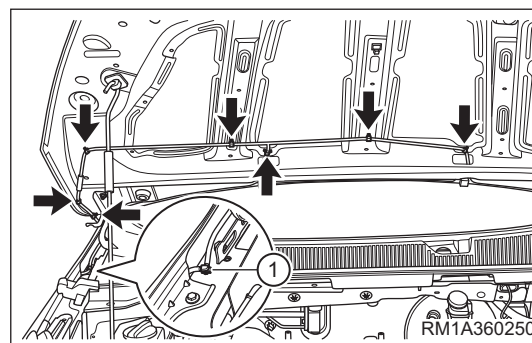
7. Remove the washer line assembly.
 - a. Disconnect joint (1) between washer line and front washer pump.
 - b. Detach clip (2) from washer line on lower part of front combination light.



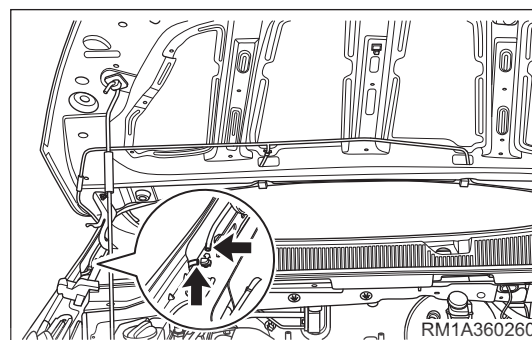
- c. Remove clips (arrow) from washer line on inner side of wing.



- d. Remove 7 clips (arrow) from washer line on upper part of hood.
- e. Remove clip (1) from washer line joint on upper and lower parts of right wing.



- f. Disconnect both ends (arrow) of washer line, and remove washer line assembly.



Installation

Installation is in the reverse order of removal.

CAUTION

- Always operate carefully to prevent components from being damaged, when installing washer line assembly.
- Install washer line joints in place, when installing washer line assembly.
- Check washer system for proper operation, after installing washer line assembly.

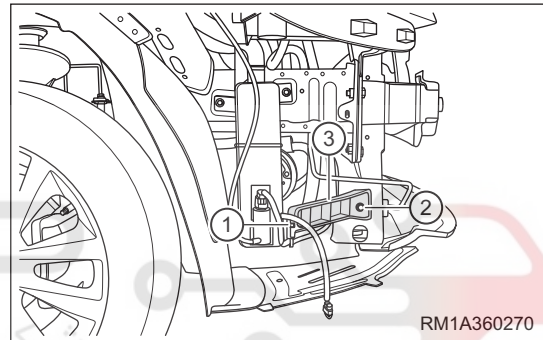
Washer Fluid Reservoir Bracket

Removal

CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing washer fluid reservoir bracket.
- Appropriate force should be applied when removing washer fluid reservoir bracket. Be careful not to operate roughly.
- Try to prevent body paint surface from being scratched, when removing washer fluid reservoir bracket.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front bumper assembly (See page 49-8).
4. Remove the washer fluid reservoir bracket.
 - a. Remove fixing bolt (1) between washer fluid reservoir bracket and washer fluid reservoir assembly. (Tightening torque: $5 \pm 1.5 \text{ N}\cdot\text{m}$)
 - b. Remove fixing bolt (2) between washer fluid reservoir bracket and body, and remove washer fluid reservoir bracket (3). (Tightening torque: $7 \pm 1.5 \text{ N}\cdot\text{m}$)



Installation

Installation is in the reverse order of removal.

DOOR LOCK

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دیجیتال خودرو

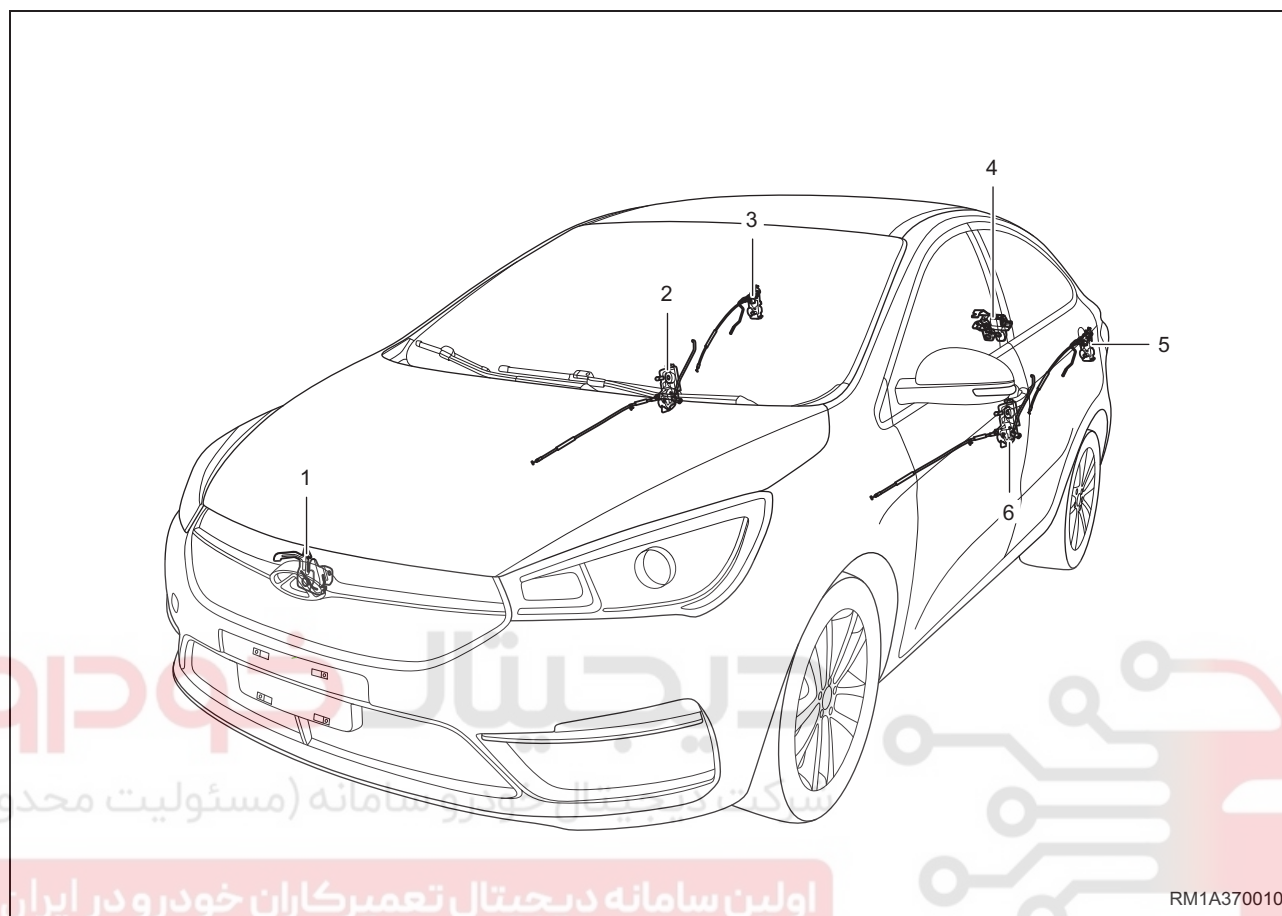
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



GENERAL INFORMATION

Description



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RM1A370010

1 - Engine Hood Lock Assembly	2 - Front Right Door Lock Assembly
3 - Rear Right Door Lock Assembly	4 - Luggage Compartment Lock Assembly
5 - Rear Left Door Lock Assembly	6 - Front Left Door Lock Assembly

1. Power door lock system function description

- a. Power door lock system can lock/unlock all doors by wireless key, mechanical key, center control switch and contact switch on handle.
 - Wireless key sends lock/unlock request signals to Passive Entry & Passive Start (PEPS) controller, which will control Body Control Module (BCM) via CAN line. Then, Body Control Module (BCM) sends these request signals to the fastener of each door in order to lock/unlock all doors simultaneously.
 - After inserting mechanical key into driver side door key cylinder, doors can be locked/unlocked by turning key clockwise or counterclockwise, but body anti-theft function cannot be set.
 - Contact switch on handle: when wireless key is outside vehicle and within a 1.5 m semicircle area around front door handle, pressing door handle switch can lock/unlock doors.
 - Contact switch on luggage compartment door: when wireless key is outside luggage compartment door and within a 1.5 m semicircle area around luggage compartment door handle, pressing door handle switch can unlock luggage compartment door.
 - Function active: effective at any time, even when engine starts.

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- Lock success: when all doors are fully closed, input lock signal from center control switch and execute lock command.
- Lock failure: when at least one door is not fully closed, input lock signal from center control switch, execute lock command, and then execute unlock command after a 1 second delay.
- Unlock success: input unlock signal from center control switch and execute unlock command, regardless of whether the doors are fully closed.
- Door lock response: when protection is not activated, Body Control Module (BCM) responses to each lock or unlock input.
- Door lock protection: lock and then unlock doors and repeat this sequence 4 times within 10 seconds (Note: door lock then unlock = 1 sequence). Once the protection is activated, door lock function will be disabled for 15 seconds. Before disable function is activated, make sure that the final command is unlock, rather than lock.

b. Function

Component	Function
Wireless Key Lock/Unlock Button	Lock/unlock all doors. Wireless key sends an unlock/lock request signal to Passive Entry & Passive Start (PEPS) controller, which will control Body Control Module (BCM) via CAN line to output unlock/lock signal to unlock/lock each door.
Mechanical Key Lock/Unlock Button	Lock/unlock all doors. Mechanical key sends unlock/lock request signal to Body Control Module (BCM), which outputs unlock/lock signal to unlock/lock each door.
Contact Switch Unlock/Lock Button on Handle	Lock/unlock all doors. Contact switch on handle sends unlock/lock request signal to Passive Entry & Passive Start (PEPS) controller, which will control Body Control Module (BCM) via CAN line to output unlock/lock signal to unlock/lock each door.
Center Control Switch Unlock/Lock Button	Lock/unlock all doors. Center control switch sends unlock/lock request signal to Passive Entry & Passive Start (PEPS) controller, which will control Body Control Module (BCM) via CAN line to output unlock/lock signal to unlock/lock each door.
Front Left Door Lock Assembly	Lock/Unlock front left door with fastener. It has built-in door unlock/lock switch and sends unlock/lock signal to Body Control Module (BCM) to unlock/lock each door.
Front Right Door Lock Assembly Rear Left Door Lock Assembly Rear Right Door Lock Assembly	Lock/Unlock front right door with fastener. Lock/Unlock rear left door with fastener. Lock/Unlock rear right door with fastener.
Power Door Lock Switch Unlock/Lock Button	Lock/Unlock all doors.
Front Left Door Lock Assembly	Lock/Unlock front left door with fastener. It has built-in door unlock/lock switch and sends unlock/lock signal to Body Control Module (BCM) to unlock/lock each door.

Component	Function
Front Right Door Lock Assembly	Lock/Unlock front right door with fastener.
Rear Left Door Lock Assembly	Lock/Unlock rear left door with fastener.
Rear Right Door Lock Assembly	Lock/Unlock rear right door with fastener.

2. Wireless door lock system

a. Wireless door lock function

(1) Performance characteristics of wireless key button

- When ignition switch is turned to LOCK, each button on wireless key can operate.
- When ignition switch is turned to ACC, only unlock button on wireless key can operate.
- When ignition switch is turned to ON, only unlock button on wireless key can operate.

(2) When wireless door lock function is effective:

- With all doors, engine hood, luggage compartment door fully closed: press lock button on wireless key, all door locks perform lock operation (at this time, vehicle enters fortifying mode); press unlock button on wireless key, Body Control Module (BCM) performs unlock operation.
- With all doors fully closed, either engine hood or luggage compartment door not closed: press lock button on wireless key, all door locks perform lock operation (at this time, vehicle enters fortifying failure mode); press unlock button on wireless key, Body Control Module (BCM) performs unlock operation.
- With one of four doors not closed: press lock button on wireless key, all door locks perform lock operation, and unlock after 1 second; press unlock button on wireless key, Body Control Module (BCM) performs unlock operation.

b. Wireless function of luggage compartment

- With ignition switch LOCK, press luggage compartment button on wireless key for more than 1.5 seconds, luggage compartment opens.
- Luggage compartment light turns on when luggage compartment door is opened, and turns off when luggage compartment door is closed. If luggage compartment door remains open, luggage compartment light will turn on for 15 minutes and then turn off.

c. This system locks/unlocks doors remotely. Remote control system has following features:

- A key-integrated type transmitter is used and contains following 2 switches: lock switch and unlock switch.
- Transmitter has built-in LED and can be used to check battery condition.

d. System function

Function	Description
All doors lock function	Press lock switch on wireless key to lock all doors.
All doors unlock function	Press unlock switch on wireless key to unlock all doors.
Answer-back function	Lock: turn signal light blinks once when doors are locked. Unlock: turn signal light blinks twice when doors are unlocked to indicate that operation has been completed.
Automatic lock function	If no doors are opened within 30 seconds after they are unlocked by wireless key, all doors will lock again automatically.

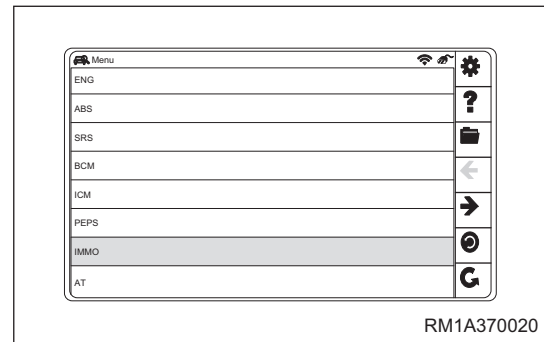
38 - DOOR LOCK

e. Wireless key match

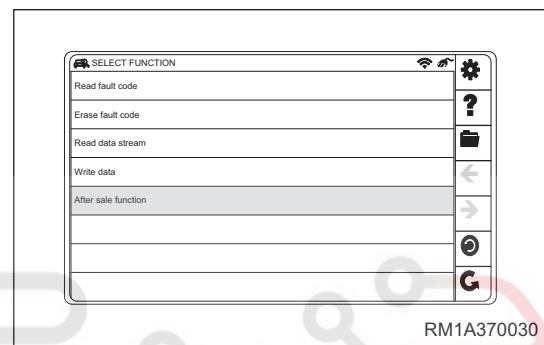
If wireless key is lost, damaged, or Body Control Module (BCM) is replaced, wireless key needs to be matched again. Detailed operation procedures are as follows:

Method 1:

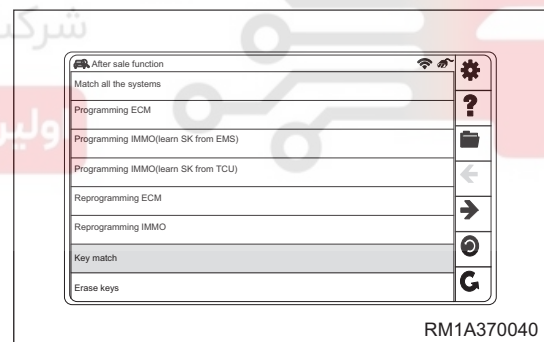
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network. Then select corresponding model (M1A) on X-431 3G diagnostic tester (the latest software) to enter the system and select "IMMO" system.



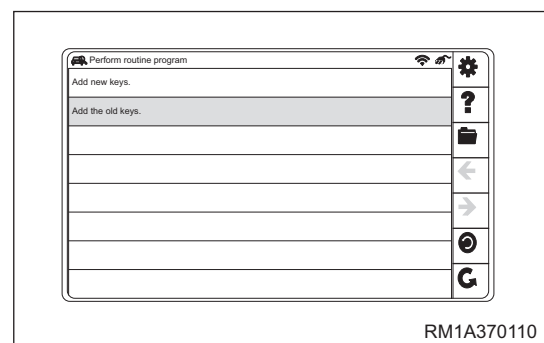
- Please select [After sale function] on SELECT FUNCTION screen.



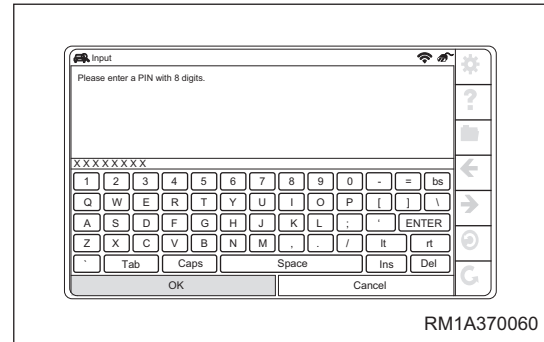
- Please select [Key match] on After sale function screen.



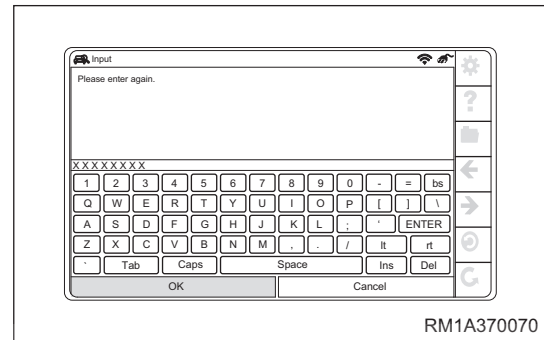
- Please select [Add the old keys] on Perform routine program screen.



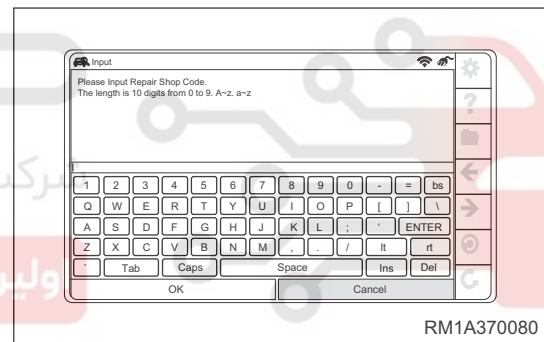
- When "Please enter a PIN with 8 digits" is displayed on Input screen, input PIN code and click "OK".



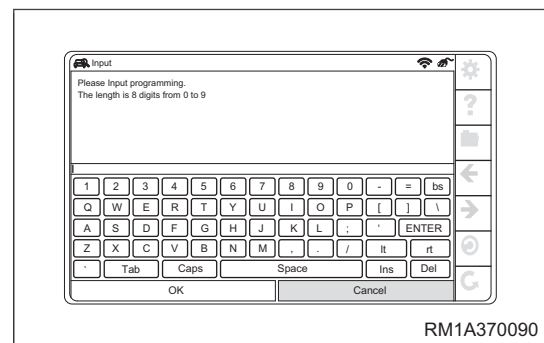
- When "Please enter again" is displayed on Input screen, input PIN code again and click "OK".



- When "Please Input Repair Shop Code. The length is 10 digits from 0 to 9. A~Z. a~z" is displayed, click "Cancel".

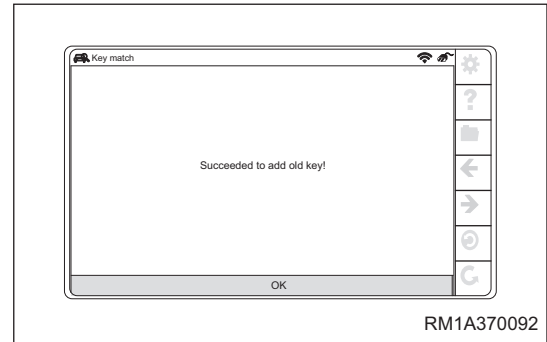


- When "Please Input programming. The length is 8 digits from 0 to 9" is displayed, click "Cancel".



38 - DOOR LOCK

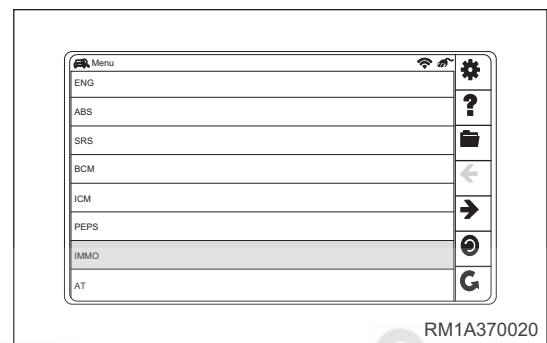
- When "Succeeded to add old key" is displayed on Key match screen, click "OK".



- Key match is completed.

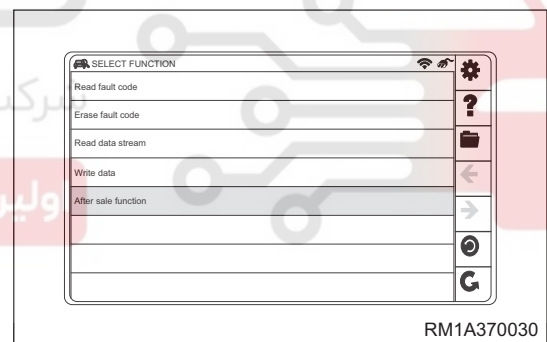
Method 2:

- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network. Then select corresponding model (M1A) on X-431 3G diagnostic tester (the latest software) to enter the system and select "IMMO" system.

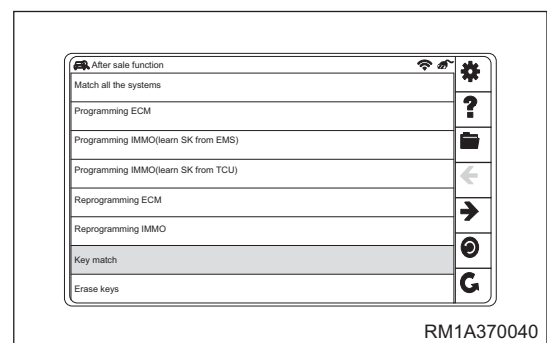


38

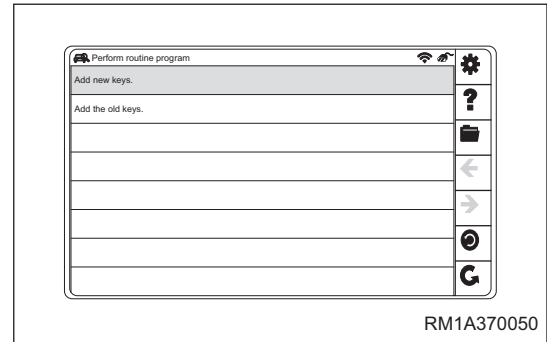
- Please select [After sale function] on SELECT FUNCTION screen.



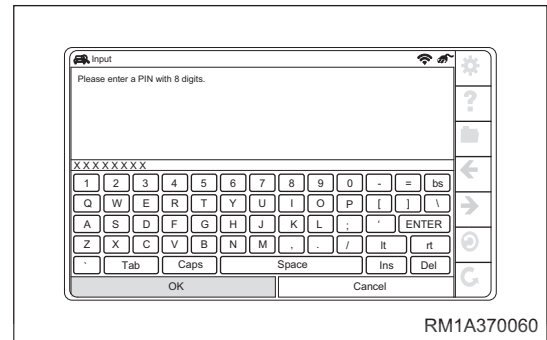
- Please select [Key match] on After sale function screen.



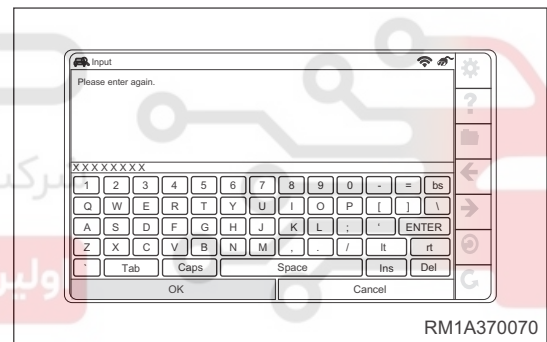
- Please select [Add new keys] on Perform routine program screen.



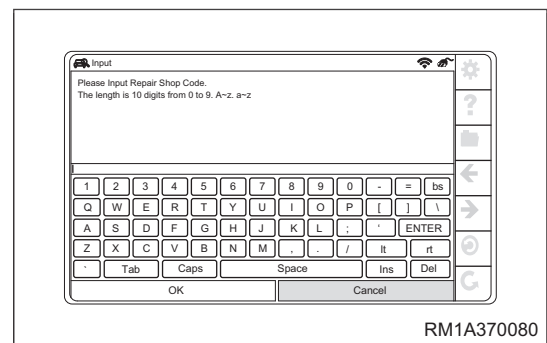
- When "Please enter a PIN with 8 digits" is displayed on Input screen, input PIN code and click "OK".



- When "Please enter again" is displayed on Input screen, input PIN code again and click "OK".

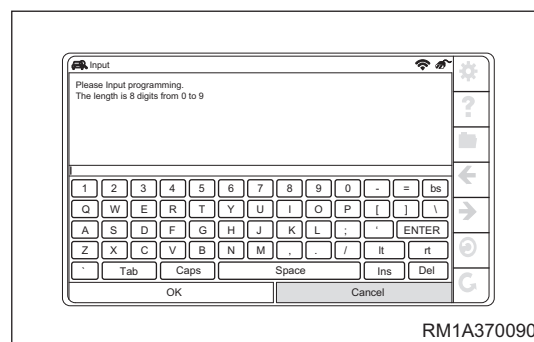


- When "Please Input Repair Shop Code. The length is 10 digits from 0 to 9. A~Z. a~z" is displayed, click "Cancel".

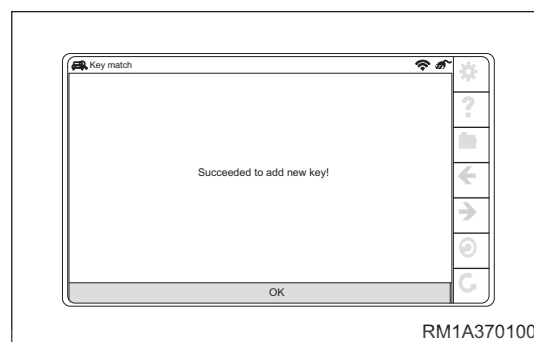


38 - DOOR LOCK

- When "Please Input programming. The length is 8 digits from 0 to 9" is displayed, click "Cancel".



- When "Succeeded to add new key" is displayed on Key match screen, click "OK".



38

- Key match is completed.

f. Wireless key

Wireless key controls lock/unlock of door.

Wireless key lock: with all doors fully closed, press lock button on wireless key, all doors will be locked while turn signal lights blink once. Security indicator will also blink normally to indicate that system is in armed state, and body anti-theft system is started. With any door not closed or fully closed, press lock button on wireless key, all doors are unlocked immediately after performing lock operation while turn signal lights blink twice, to remind driver that vehicle is not fortified.

Wireless key unlock: press unlock button on wireless key, all doors will unlock while turn signal lights blink twice, body anti-theft system is deactivated and security indicator turns off. After unlocking doors with wireless key, open any door within 30 seconds. If no door is opened within 30 seconds, doors will lock again automatically.

g. Vehicle security system has 7 modes:

- Fortifying mode
 - It will enter fortifying mode when following conditions are met:
 - Key is removed.
 - All doors, engine hood and luggage compartment door are closed.
 - All doors are locked by using lock button on wireless key.
 - When vehicle is in fortifying mode, following conditions will occur:
 - Turn signal lights blink once to indicate that vehicle is in fortifying state.
 - In fortifying mode, if no door is opened within 30 seconds after unlocking doors by using wireless key, doors will lock again automatically and enter fortifying state.
- Fortifying failure mode
 - System will enter fortifying failure mode under following conditions:
 - If any door, engine hood or luggage compartment door is not fully closed.
 - When vehicle is in fortifying failure mode, following conditions will occur:
 - Turn signal lights blink twice.
 - If all doors are not closed, center control door lock performs "doors lock and then unlock", regardless of the conditions of engine hood and luggage compartment door.

- c. If all doors are fully closed, the doors will be locked when engine hood/luggage compartment door is not fully closed.
- Fortifying deactivation mode
 - (1) In fortifying mode, fortifying will be deactivated if either of following conditions occurs:
 - a. Press unlock button on wireless key.
 - b. Press luggage compartment button on wireless key for more than 1.5 seconds
 - c. Open doors with key.
 - (2) Fortifying deactivation mode (unlock doors using wireless key, open doors with key or press luggage compartment button) is signified by any of followings:
 - a. All doors are unlocked.
 - b. Turn signal lights slowly blink twice and anti-theft indicator stops blinking.
 - (3) If any of followings occurs within 30 seconds after doors are unlocked by using wireless key, vehicle will neither return to fortifying state, nor lock automatically:
 - a. Turn ignition switch to ON.
 - b. Any door is open.
 - c. Engine hood is open.
 - d. Luggage compartment door is open.
- Refortifying mode
 - (1) It will enter refortifying mode when following conditions are met:
 - a. Fortifying will be deactivated by using wireless key button after entering fortifying mode.
 - b. Conditions of all doors, engine hood and luggage compartment door do not change.
 - c. If key is not in ignition key cylinder or ignition switch is not turned to ACC or ON, system will enter refortifying mode after 30 seconds.
 - (2) Refortifying mode is signified by any of followings:
 - a. All doors are locked, turn signal lights do not blink, which indicate that system enters refortifying mode.
- Alarm mode
 - (1) When vehicle is in fortifying mode, alarm will be triggered if any of following condition occurs:
 - a. Manually open any door, engine hood or luggage compartment door.
 - b. Turn ignition switch to ON.
 - (2) When vehicle is in alarm mode, following conditions occur:
 - a. After alarm is triggered, turn signal lights will blink for 30 seconds. Blinking will occur again after an interval of 5 seconds. This process will repeat for 3 times. If all doors/engine hood are fully closed or ignition switch is turned off in this process, all doors will be locked again automatically after completing the current blinking for turn signal lights and 5 seconds have elapsed. At this time, body anti-theft system will be restarted.
- Alarm deactivation mode
 - (1) Following operations will deactivate alarm:
 - a. Press unlock button on wireless key.
 - b. Open doors with key.
 - c. Press luggage compartment button on wireless key for more than 1.5 seconds.
- Luggage compartment opening mode
 - (1) In fortifying mode, if luggage compartment door opening button on wireless key is pressed for 1.5 seconds, the luggage compartment is unlocked and turn signal lights blink twice. After an interval of 1 second, system enters luggage compartment opening mode.
 - a. Opening of luggage compartment does not trigger alarm mode.
 - b. After luggage compartment is closed, system enters fortifying mode again without any sound or light feedback.

38 - DOOR LOCK

- c. If lock button on wireless key is pressed with luggage compartment open, system enters fortifying failure mode. If unlock button on wireless key is pressed, system enters fortifying deactivation mode.
- d. If all doors and engine hood are opened, system will enter alarm mode, regardless of whether luggage compartment door is closed.

Specifications

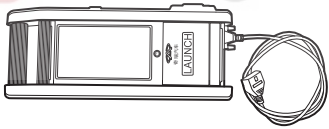
Torque Specifications

Description	Torque (N·m)
Hood Lock Assembly Fixing Nut	9 ± 1
Front Door Lock Assembly Fixing Screw	9 ± 1
Front Door Key Cylinder Assembly Fixing Screw	9 ± 1
Front Door Lock Striker Assembly Fixing Screw	23 ± 2
Rear Door Lock Assembly Fixing Screw	9 ± 1
Rear Door Lock Striker Assembly Fixing Screw	23 ± 2
Luggage Compartment Lock Assembly Fixing Screw	9 ± 1
Luggage Compartment Lock Striker Assembly Fixing Screw	23 ± 2
Front Door Outside Handle Fixing Screw	1.5

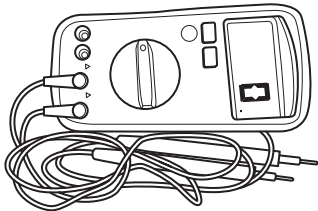
38

Tools

Special Tool

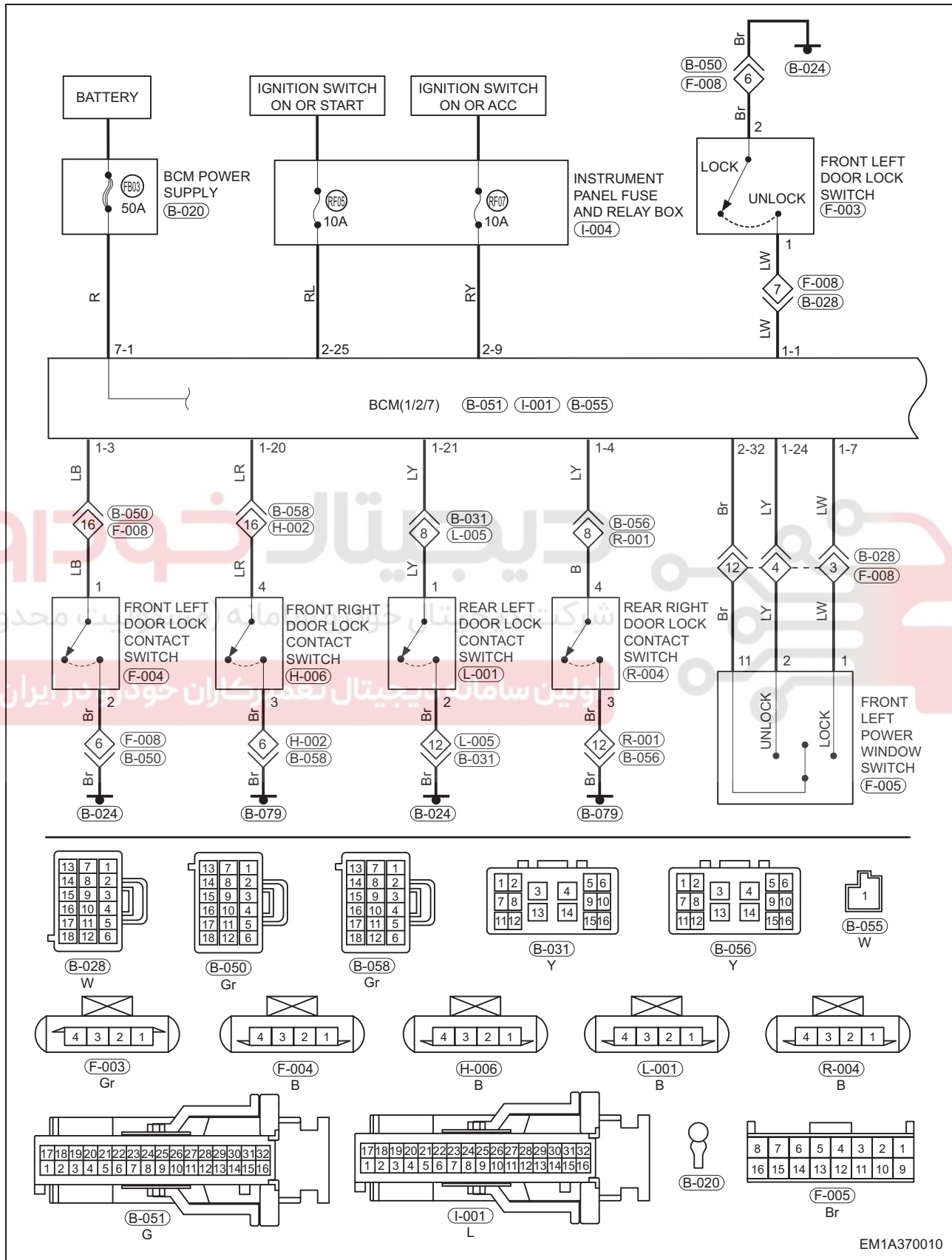
X-431 3G Diagnostic Tester	 RCH0000001
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General Tool

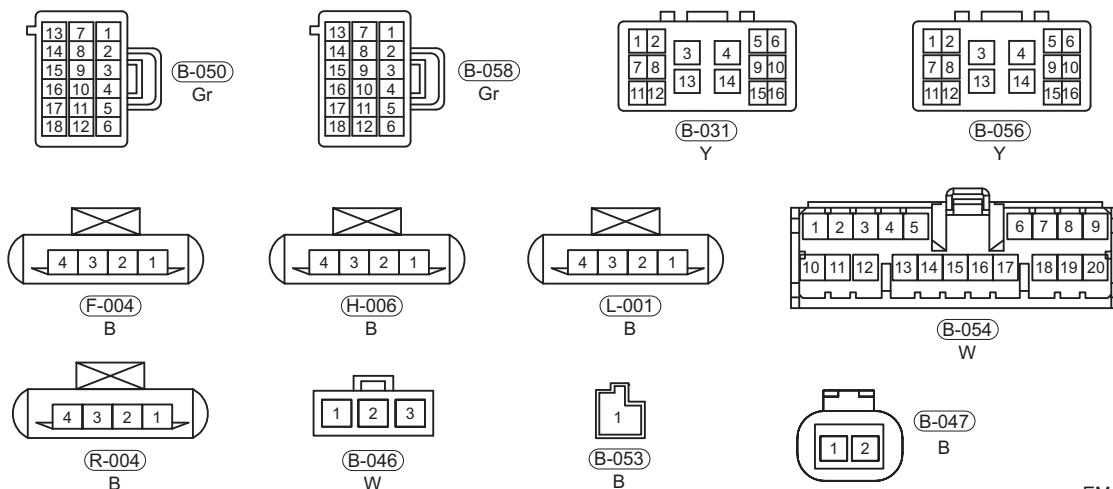
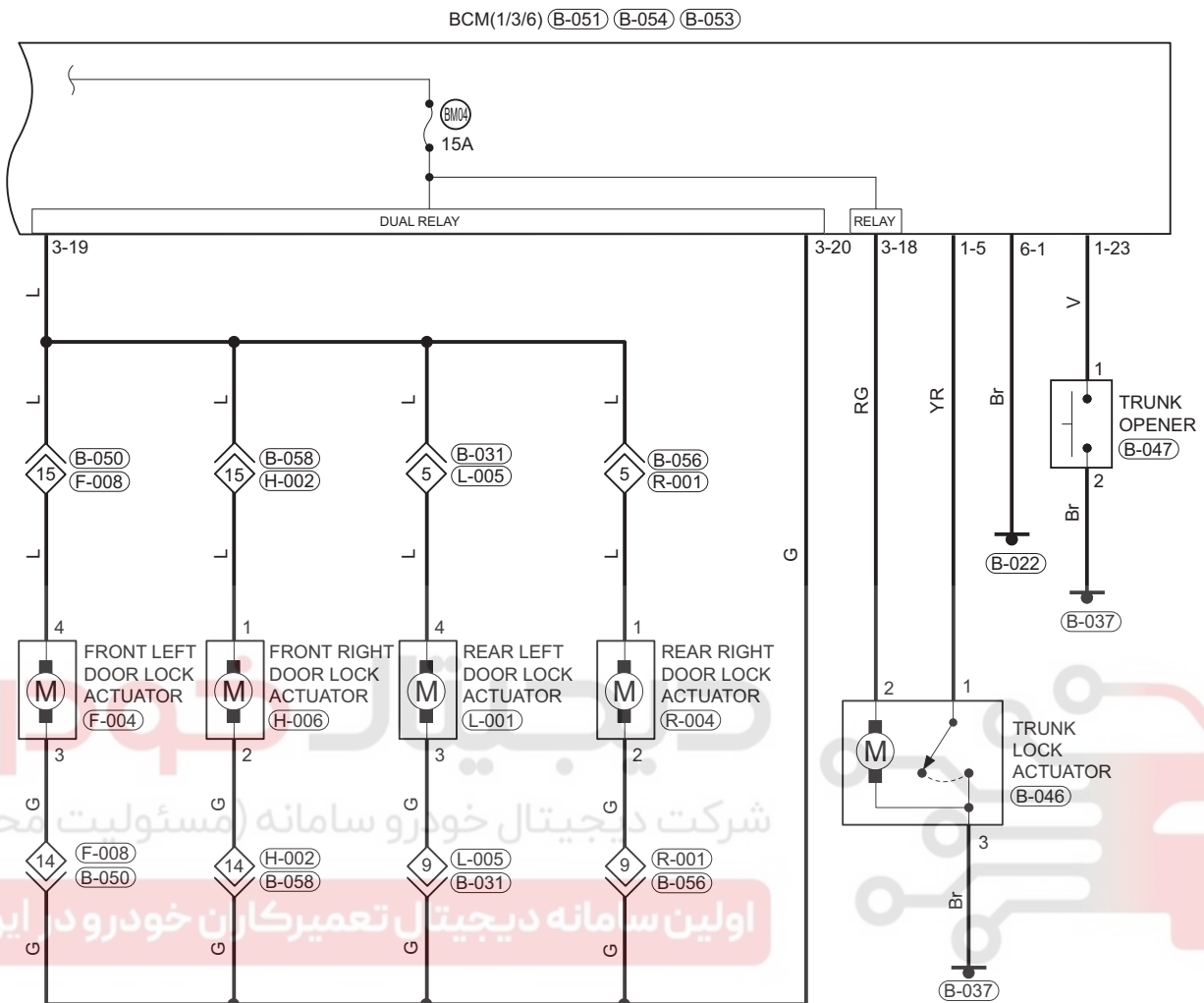
Digital Multimeter	 RCH0000002
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Circuit Diagram

Power Door Lock System (Page 1 of 2)



Power Door Lock System (Page 2 of 2)



EM1A370020

DIAGNOSIS & TESTING

Problem Symptoms Table

HINT:

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

Power Door Lock Control System

Symptom	Suspected Area	See page
All door lock/unlock functions do not operate	Body Control Module (BCM) fuse	54-32
	Power door lock switch unlock/lock button	-
	Front left door lock assembly	38-40
	Other door lock assemblies	-
	Wire harness or connector	-
	Body Control Module (BCM)	-
Only driver side door lock/unlock function does not operate	Power door lock switch unlock/lock button	-
	Front left door lock assembly	38-40
	Wire harness or connector	-
	Body Control Module (BCM)	-
Only front passenger side door lock/unlock function does not operate	Front right door lock assembly	38-40
	Wire harness or connector	-
	Body Control Module (BCM)	-
Only rear left door lock/unlock function does not operate	Rear left door lock assembly	38-46
	Wire harness or connector	-
	Body Control Module (BCM)	-
Only rear right door lock/unlock function does not operate	Rear right door lock assembly	38-46
	Wire harness or connector	-
	Body Control Module (BCM)	-
Only luggage compartment door open/close function does not operate	Luggage compartment lock assembly	38-50
	Wire harness or connector	-
	Body Control Module (BCM)	-

Wireless Door Lock Control System

Symptom	Suspected Area	See page
Only wireless control function does not operate	Wireless key battery	38-56
	Anti-theft match	38-6
	Wire harness or connector	-
	Body Control Module (BCM)	-

38 - DOOR LOCK

Symptom	Suspected Area	See page
Only no answer-back	Turn signal light	-
	Body Control Module (BCM)	-

Diagnosis Tools

X-431 3G Diagnostic Tester

When connecting X-431 3G diagnostic tester:

- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC) for communication with vehicle.
- DLC is located at driver side instrument panel crossmember.
- DLC uses a trapezoidal design which can hold 16 terminals.

Digital Multimeter

When using digital multimeter:

- Troubleshoot electrical malfunctions and wire harness system.
- Look for basic fault.
- Measure voltage, current and resistance.

DTC Confirmation Procedure

Confirm that battery voltage is normal before performing following procedures.

38

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

Intermittent DTC Troubleshooting

If malfunction is intermittent, perform the followings:

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

Ground Inspection

Ground points are very important to the proper operation of circuit system. Ground points are often exposed to moisture, dirt and other corrosive environments. Corrosion (rust) and oxidation may increase load resistance. This situation will seriously affect the normal operation of circuit. Groundings are very important to entire circuit system, which are normal or not can seriously affect the entire circuit system. Loose ground, corrosion (rust) or oxidation will seriously affect the normal operation of control circuit system.

Check ground points as follows:

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

Diagnosis Procedure

HINT:

Use following procedures to troubleshoot the power door lock control system.

1	Vehicle brought to workshop
---	-----------------------------

NEXT

38

2	Check battery voltage
---	-----------------------

Standard voltage: 11 to 14 V

If 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

38 - DOOR LOCK

5 Problem repair (no DTC), then 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

38

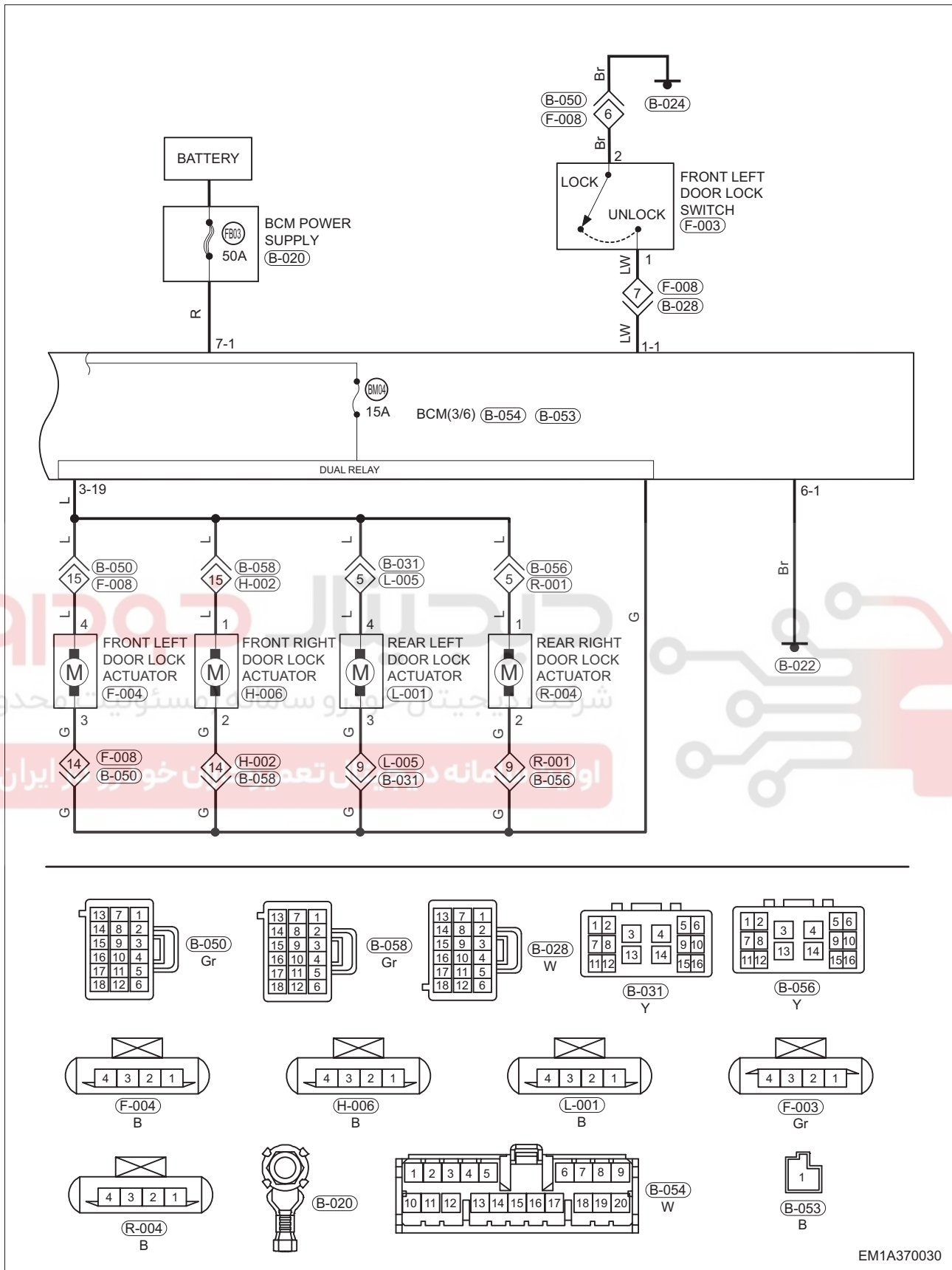
9 Conduct test and confirm malfunction has been repaired

NEXT

10 End

Diagnostic Trouble Code (DTC) Chart

DTC	DTC Definition
B1500-13	Driver Door Outside LF Antenna Circuit Open
B1501-13	Passenger Door Outside LF Antenna Circuit Open
B1502-13	Front Internal LF Antenna Circuit Open
B1503-13	Middle Internal LF Antenna Circuit Open
B1504-13	Rear Internal LF Antenna Circuit Open
B1505-13	Bumper LF Antenna Circuit Open
B1516-19	HSU Overload
B1517-23	HSU Switch Continuously Pressed Failure
B1024-71	Trunk Lock Control Circuit Actuator Stuck



All Door Lock/Unlock Functions Do Not Operate

Failure cause:

- Body Control Module (BCM) fuse
- Power door lock switch unlock/lock button
- Front left door lock assembly
- Wire harness or connector
- Body Control Module (BCM)

Service method:

CAUTION

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

Diagnosis Procedure

1 Check Body Control Module (BCM) fuse BM04 (15A)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Remove Body Control Module (BCM) fuse BM04 (15A).
- Check if fuse is blown.

NG

Replace Body Control Module (BCM) fuse
BM04 (15A)

OK

2 Check power door lock switch unlock/lock button

- Turn ignition switch to LOCK.
- Press the front left door lock switch unlock/lock button.
- Observe door lock for any response.

NG

Replace front left door lock switch unlock/
lock button

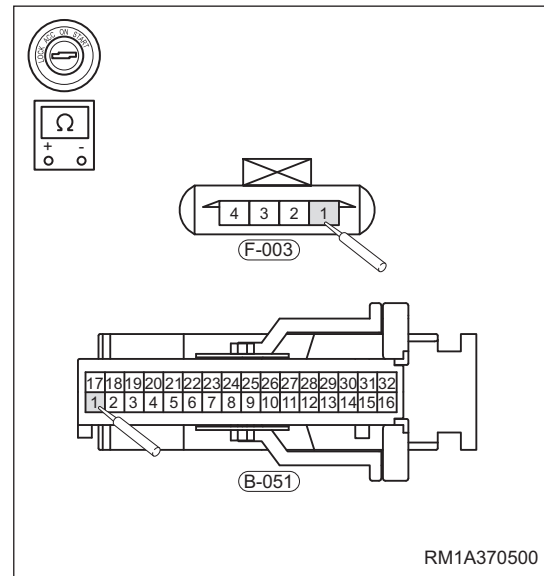
OK

3

Check instrument panel wire harness and connector

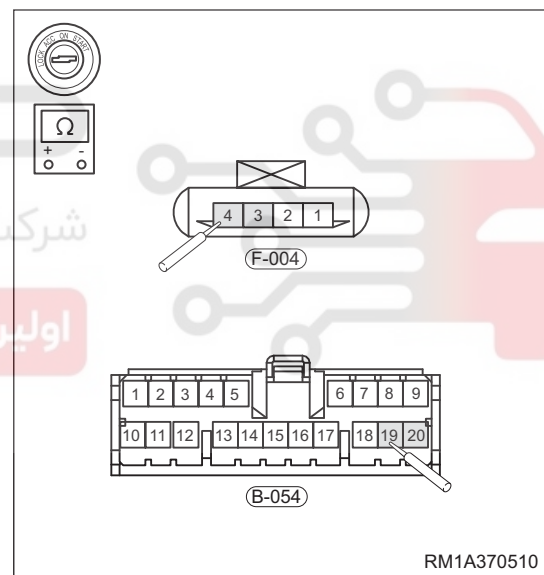
- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect instrument panel wire harness connector B-051 and front left door fastener switch connector F-003.
- Using a digital multimeter, check for continuity between connector B-051 (1) and connector F-003 (1) according to table below.

Multimeter Connection	Condition	Specified Condition
B-051 (1) - F-003 (1)	Always	Continuity



- Disconnect body control module connector B-054 and front left door fastener connector F-004.
- Check for continuity between body control module connector B-054 (19) and front left door fastener connector F-004 (4).
- Check for continuity between body control module connector B-054 (20) and front left door fastener connector F-004 (3).

Multimeter Connection	Condition	Specified Condition
B-054 (19) - F-004 (4)	Always	Continuity
B-054 (20) - F-004 (3)	Always	Continuity



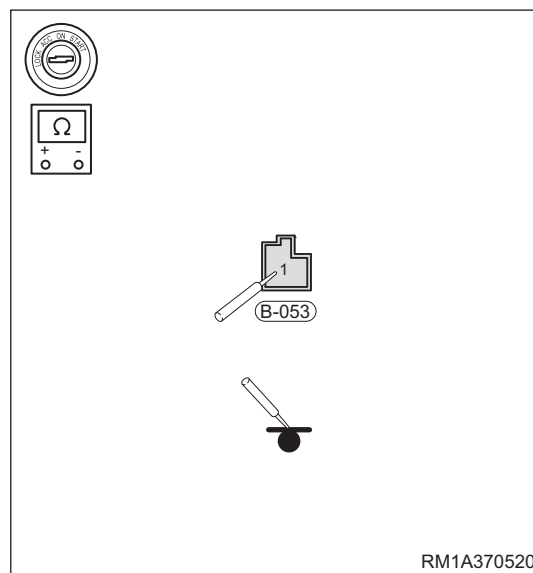
38 - DOOR LOCK

- h. Check for continuity between body control module connector B-053 (1) and ground point B-022.

Multimeter Connection	Condition	Specified Condition
B-053 (1) - B-022	Always	Continuity

NG

Repair or replace wire harness and connector



OK

Replace BCM assembly



Only Driver Side Door Lock/Unlock Function Does Not Operate

Failure cause:

- Power door lock switch unlock/lock button
- Front left door lock assembly
- Wire harness or connector
- Body Control Module (BCM)

Service method:

CAUTION

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

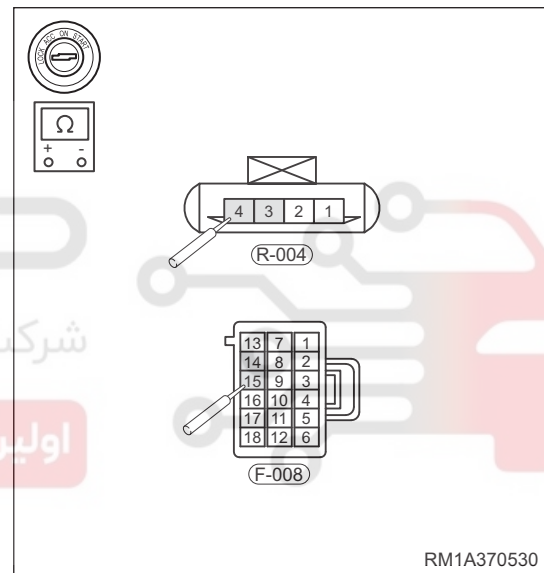
Diagnosis Procedure

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect front left door fastener connectors F-004 and F-008.
- Check for continuity between connectors F-008 (15) and F-004 (4), and connectors F-008 (14) and F-004 (3).

Multimeter Connection	Condition	Specified Condition
F-008 (15) - F-004 (4)	Always	Continuity
F-008 (14) - F-004 (3)	Always	Continuity

NG

Repair or replace front left door wire harness and connector



OK

Replace front left door fastener with a new one and perform a test

NG

Repair or replace front left door fastener

OK

Replace BCM assembly

Only Front Passenger Side Door Lock/Unlock Function Does Not Operate

Failure cause:

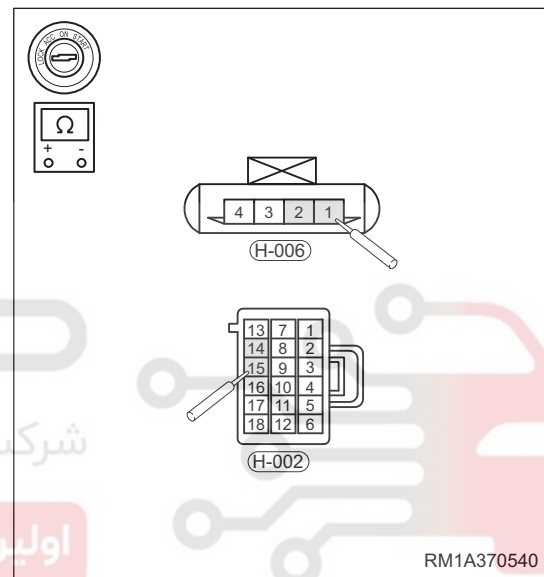
- Power door lock switch unlock/lock button
- Front right door lock assembly
- Wire harness or connector

CAUTION

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

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect front right door wire harness connector H-002 and fastener connector H-006.
- Using a digital multimeter, check for continuity between front right door wire harness connector H-002 (15) and front right door fastener connector H-006 (1) according to table below.
- Using a digital multimeter, check for continuity between front right door wire harness connector H-002 (14) and front right door fastener connector H-006 (2) according to table below.

Multimeter Connection	Condition	Specified Condition
H-002 (15) - H-006 (1)	Always	Continuity
H-002 (14) - H-006 (2)	Always	Continuity



NG

Repair or replace front right door wire harness and connector

OK

Replace front right door fastener with a new one and perform a test

NG

Repair or replace front right door fastener

OK

Replace BCM assembly

Only Rear Left Door Lock/Unlock Function Does Not Operate

Failure cause:

- Power door lock switch unlock/lock button
- Rear left door lock assembly
- Wire harness or connector
- Body Control Module (BCM)

Service method:

CAUTION

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

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect rear left door wire harness connector L-005 and fastener connector L-001.
- Using a digital multimeter, check for continuity between rear left door wire harness connector L-005 (5) and rear left door fastener connector L-001 (4) according to table below.
- Using a digital multimeter, check for continuity between rear left door wire harness connector L-005 (9) and rear left door fastener connector L-001 (3) according to table below.

Multimeter Connection	Condition	Specified Condition
L-005 (5) - L-001 (4)	Always	Continuity
L-005 (9) - L-001 (3)	Always	Continuity

NG

Repair or replace rear left door wire harness and connector

OK

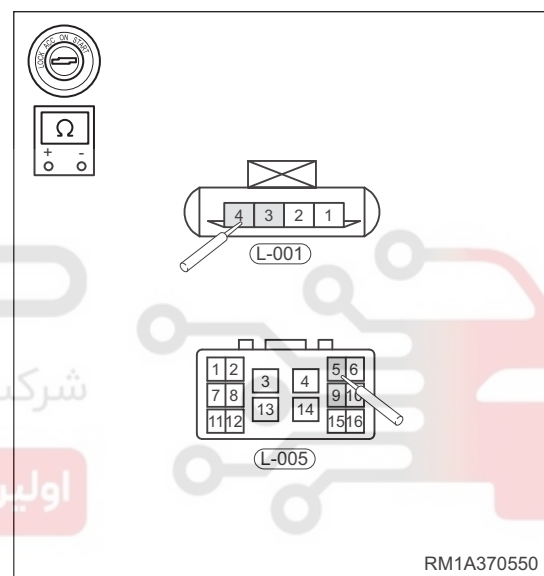
Replace rear left door fastener with a new one and perform a test

NG

Repair or replace rear left door fastener

OK

Replace BCM assembly



Only Rear Right Door Lock/Unlock Function Does Not Operate

Failure cause:

- Power door lock switch unlock/lock button
- Rear right door lock assembly
- Wire harness or connector
- Body Control Module (BCM)

Service method:

CAUTION

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

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect rear right door wire harness connector R-001 and fastener connector R-004.
- Using a digital multimeter, check for continuity between rear right door wire harness connector R-001 (5) and rear right door fastener connector R-004 (1) according to table below.
- Using a digital multimeter, check for continuity between rear right door wire harness connector R-001 (9) and rear right door fastener connector R-004 (2) according to table below.

Multimeter Connection	Condition	Specified Condition
R-001 (5) - R-004 (1)	Always	Continuity
R-001 (9) - R-004 (2)	Always	Continuity

NG

Repair or replace rear left door wire harness and connector

OK

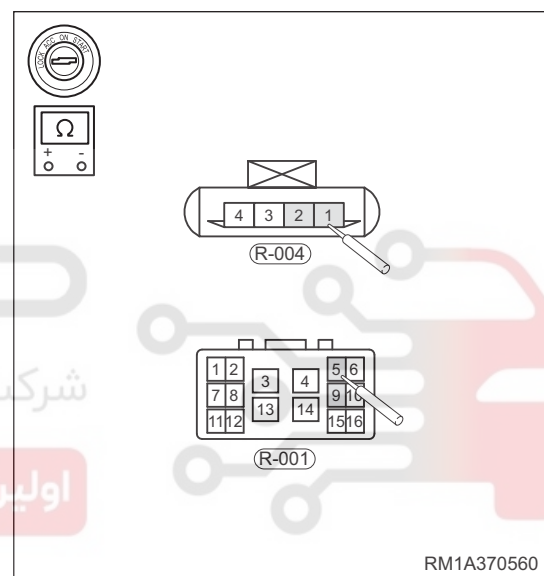
Replace rear left door fastener with a new one and perform a test

NG

Repair or replace rear left door fastener

OK

Replace BCM assembly



Only Wireless Control Function Does Not Operate

Failure cause:

- Wireless key battery
- Anti-theft match (See page 38-6)
- Wire harness or connector
- Body Control Module (BCM)

Diagnosis Procedure

Press lock/unlock button on wireless key and observe if LED light on wireless key comes on.

NG

Replace key battery

OK

System is normal

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

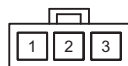
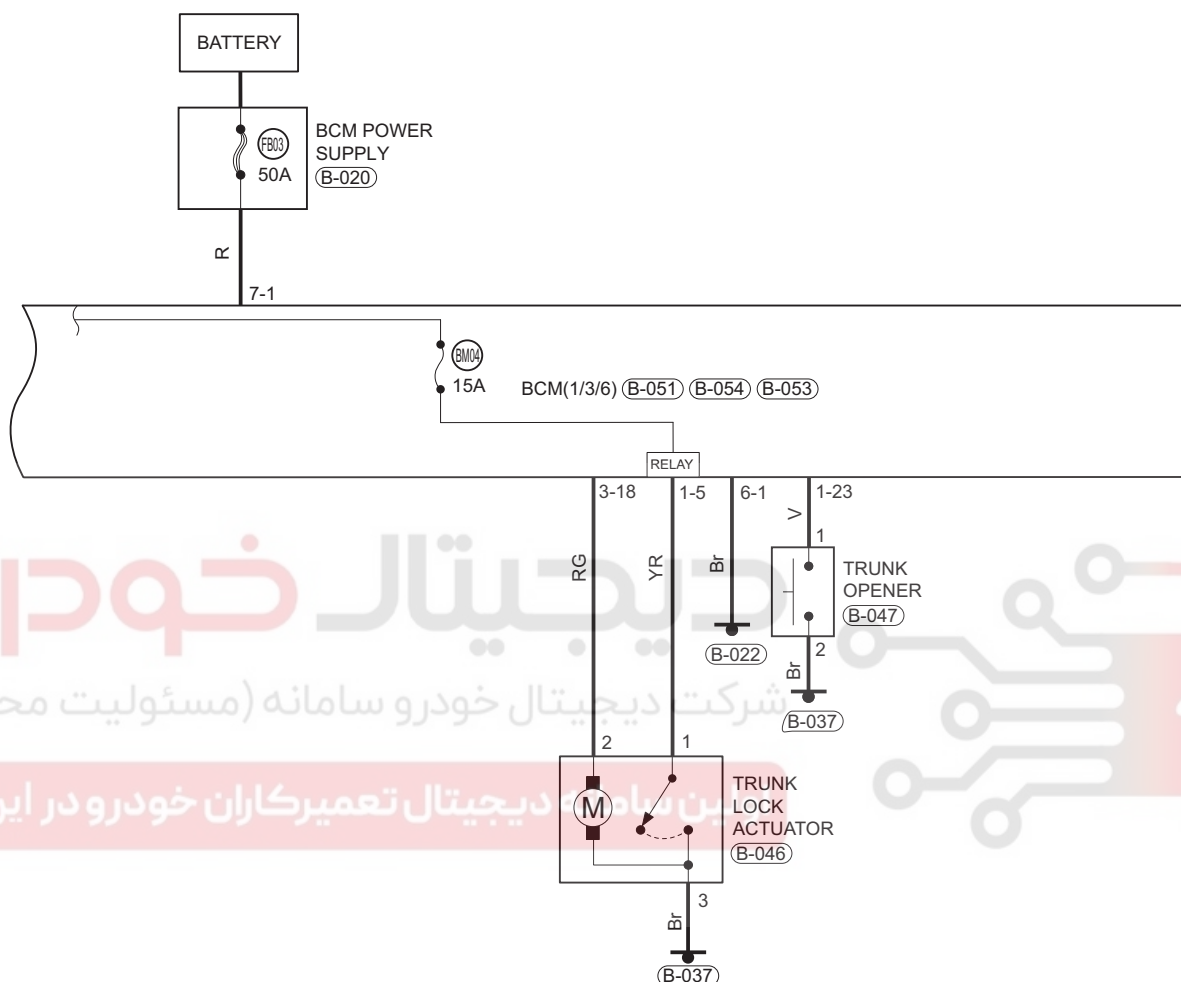


38

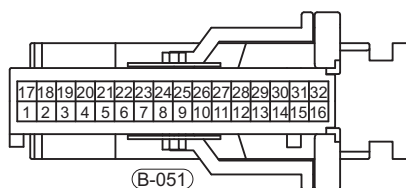
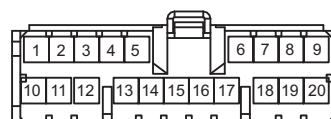
DTC

B1024-71

Trunk Lock Control Circuit Actuator Stuck

(B-046)
W(B-047)
B(B-053)
B

(B-020)

(B-051)
G(B-054)
W

EM1A370040

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B1024-71	Trunk Lock Control Circuit Actuator Stuck	Ignition switch ON	ON	- Luggage compartment lock assembly - Wire harness or connector - Body Control Module (BCM)

CAUTION

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

Diagnosis Procedure

1 Check luggage compartment lock assembly

- a. Check the luggage compartment lock assembly (See page 38-50).

NG

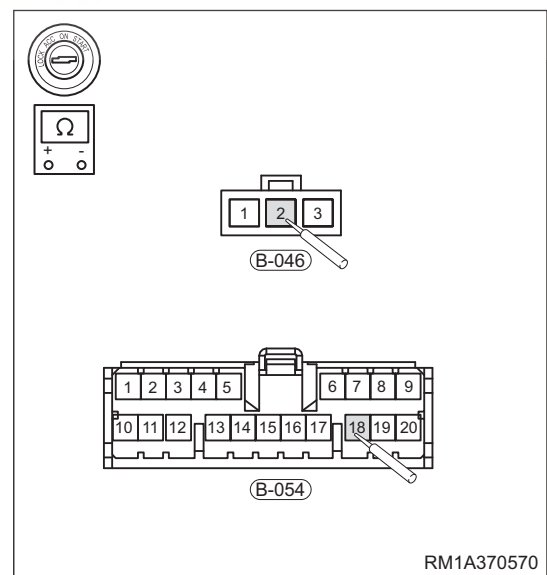
Replace luggage compartment lock assembly

OK

2 Check instrument panel wire harness and connector

- a. Turn ignition switch to LOCK.
b. Disconnect the negative battery cable.
c. Disconnect body wire harness connector B-054 and luggage compartment fastener connector B-046.
d. Using a digital multimeter, check for continuity between body wire harness connector B-054 (18) and luggage compartment fastener connector B-046 (2) according to table below.

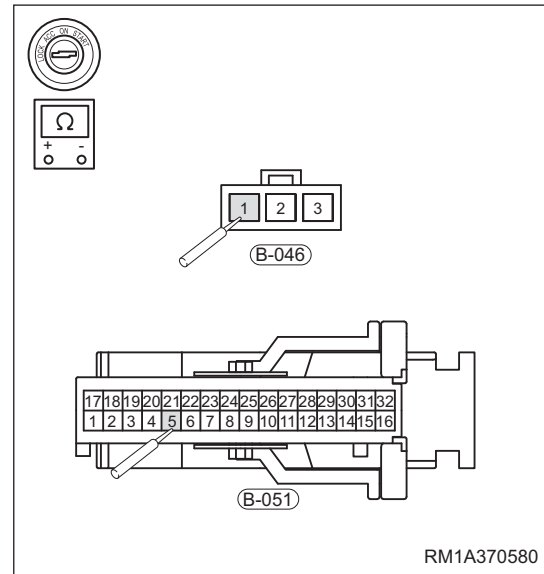
Multimeter Connection	Condition	Specified Condition
B-054 (18) - B-046 (2)	Always	Continuity



38 - DOOR LOCK

- e. Disconnect body wire harness connector B-051 and luggage compartment fastener connector B-046.
- f. Using a digital multimeter, check for continuity between body wire harness connector B-051 (5) and luggage compartment fastener connector B-046 (1) according to table below.

Multimeter Connection	Condition	Specified Condition
B-051 (5) - B-046 (1)	Always	Continuity

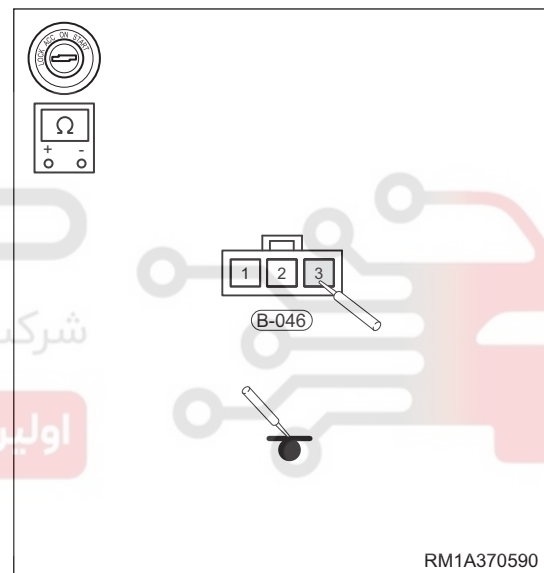


- g. Disconnect luggage compartment fastener connector B-046 and ground point B-037.
- h. Using a digital multimeter, check for continuity between luggage compartment fastener connector B-046 (3) and ground point B-037 according to table below.

Multimeter Connection	Condition	Specified Condition
B-046 (3) - B-037	Always	Continuity

NG

Repair or replace body wire harness and connector



OK

3

Reconfirm DTCs

- Connect all connectors.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester (the latest software) to record and clear DTCs stored in Body Control Module (BCM).
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester (the latest software) to read DTCs stored in Body Control Module (BCM) again.

NG

Replace Body Control Module (BCM)

OK

System is normal

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

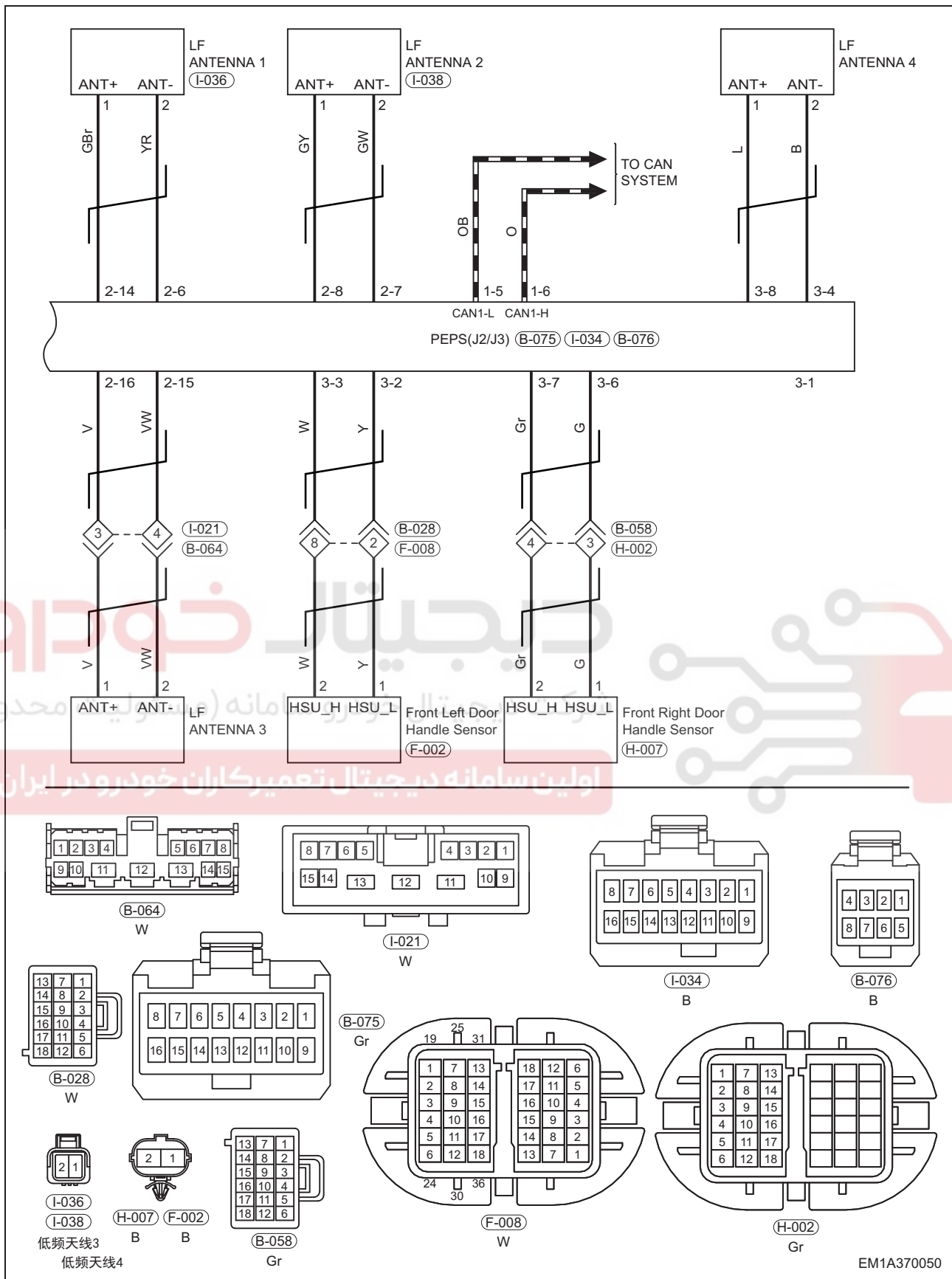


38

38 - DOOR LOCK

DTC	B1500-13	Driver Door Outside LF Antenna Circuit Open
DTC	B1501-13	Passenger Door Outside LF Antenna Circuit Open
DTC	B1502-13	Front Internal LF Antenna Circuit Open
DTC	B1503-13	Middle Internal LF Antenna Circuit Open
DTC	B1504-13	Rear Internal LF Antenna Circuit Open
DTC	B1505-13	Bumper LF Antenna Circuit Open
DTC	B1516-19	HSU Overload
DTC	B1517-23	HSU Switch Continuously Pressed Failure





DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1500-13	Driver Door Outside LF Antenna Circuit Open	Ignition switch ON	• Front left door handle sensor (built-in low frequency antenna) • Front right door handle sensor (built-in low frequency antenna) • Luggage compartment door handle sensor • Wire harness or connector • PEPS controller
B1501-13	Passenger Door Outside LF Antenna Circuit Open		
B1502-13	Front Internal LF Antenna Circuit Open		
B1503-13	Middle Internal LF Antenna Circuit Open		
B1504-13	Rear Internal LF Antenna Circuit Open		
B1505-13	Bumper LF Antenna Circuit Open		
B1516-19	HSU Overload		
B1517-23	HSU Switch Continuously Pressed Failure		

38 DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 38-16](#)).

CAUTION

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

Diagnosis Procedure

1 Check front left door handle sensor (built-in low frequency antenna)

- Remove front left door handle sensor (built-in low frequency antenna) from malfunctioning vehicle, then install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation of front left door handle sensor (built-in low frequency antenna).

NG

Replace front left door handle sensor
(built-in low frequency antenna)

OK

2

Check front right door handle sensor (built-in low frequency antenna)

- Remove front right door handle sensor (built-in low frequency antenna) from malfunctioning vehicle, then install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation of front right door handle sensor (built-in low frequency antenna).

NG

Replace front right door handle sensor
(built-in low frequency antenna)

OK

3

Check luggage compartment door handle sensor

- Remove luggage compartment door handle sensor from malfunctioning vehicle, and install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation of luggage compartment door handle sensor.

NG

Replace luggage compartment door
handle sensor

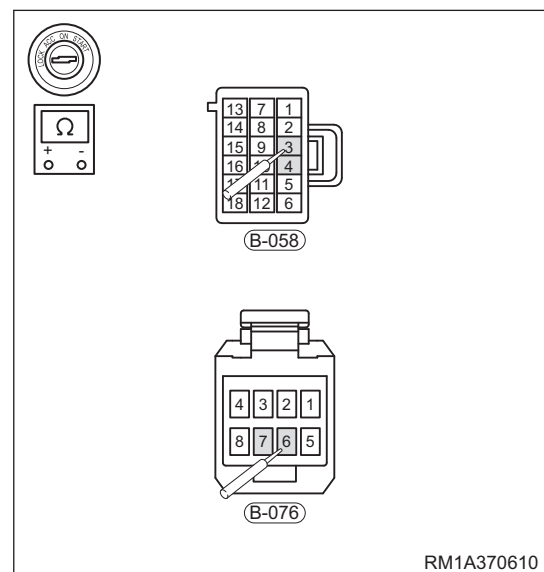
OK

4

Check body wire harness and connector

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connectors B-076 and B-058.
- Using a digital multimeter, check for continuity between body wire harness connectors B-076 and B-058 according to table below.

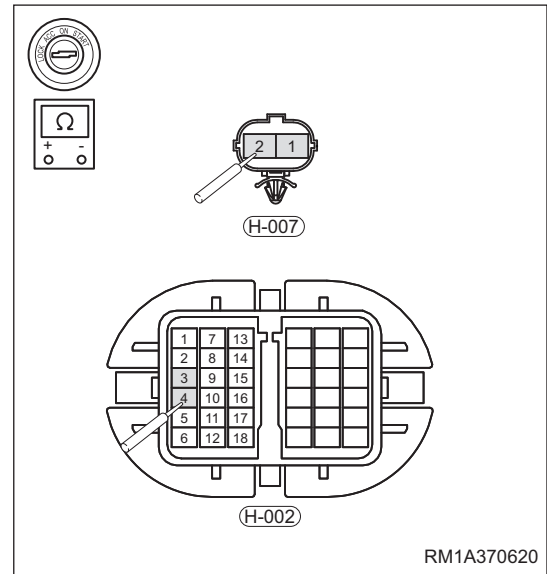
Multimeter Connection	Condition	Specified Condition
B-076 (6) - B-058 (3)	Always	Continuity
B-076 (7) - B-058 (4)	Always	Continuity



38 - DOOR LOCK

- e. Disconnect front right door wire harness connector H-002 and front right door handle sensor connector H-007.
- f. Using a digital multimeter, check for continuity between connectors H-002 and H-007 according to table below.

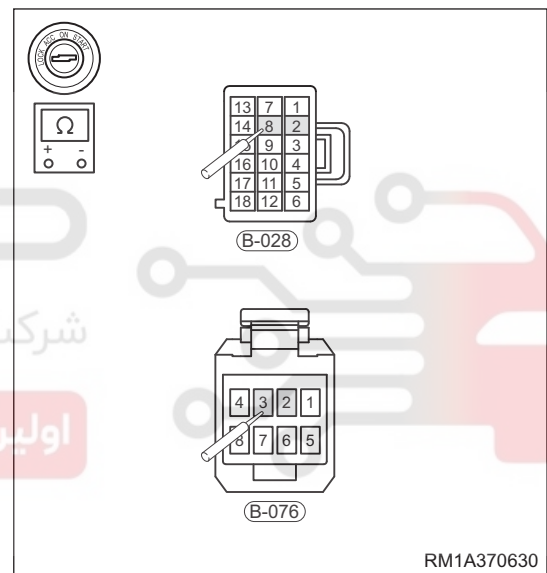
Multimeter Connection	Condition	Specified Condition
H-002 (4) - H-007 (2)	Always	Continuity
H-002 (3) - H-007 (1)	Always	Continuity



- g. Disconnect body wire harness connectors B-076 and B-028.
- h. Using a digital multimeter, check for continuity between body wire harness connectors B-076 and B-028 according to table below.

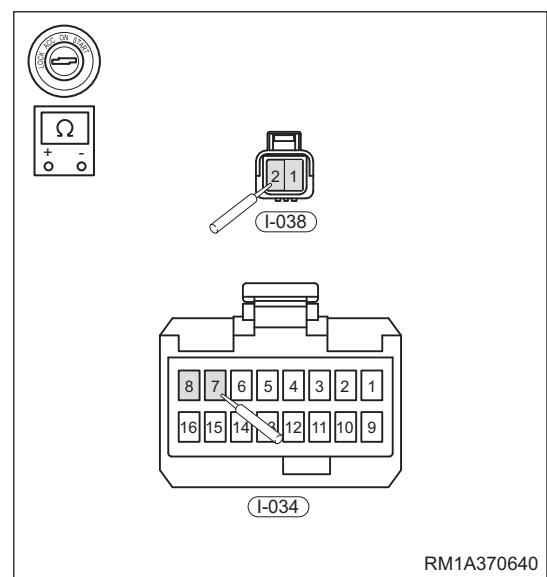
38

Multimeter Connection	Condition	Specified Condition
B-076 (3) - B-028 (8)	Always	Continuity
B-076 (2) - B-028 (2)	Always	Continuity



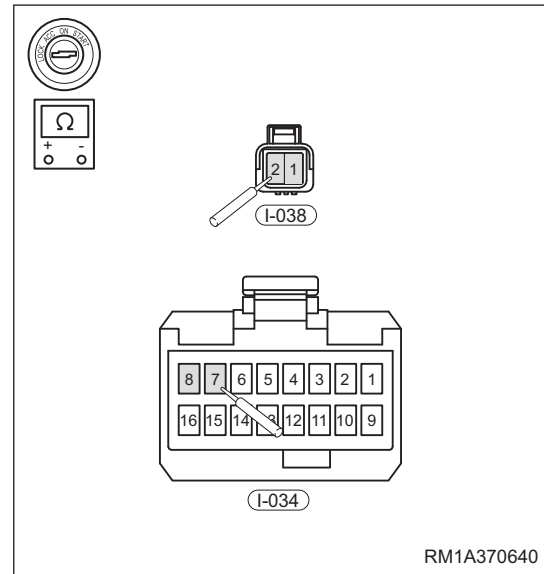
- i. Disconnect front left door wire harness connector F-008 and front left door handle sensor connector F-002.
- j. Using a digital multimeter, check for continuity between connectors F-008 and F-002 according to table below.

Multimeter Connection	Condition	Specified Condition
F-008 (2) - F-002 (1)	Always	Continuity
F-008 (8) - F-002 (2)	Always	Continuity



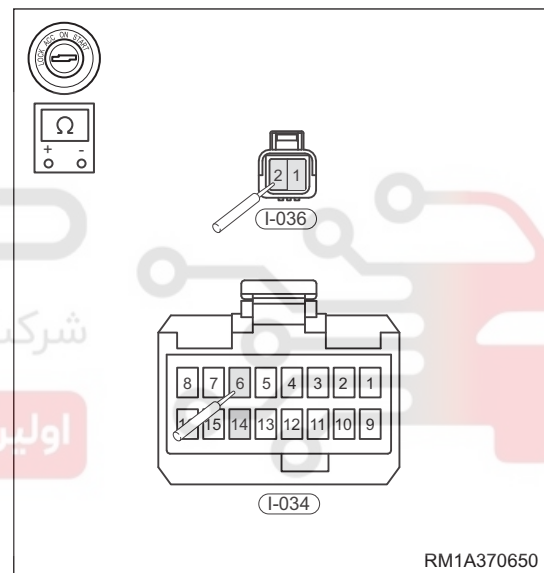
- k. Disconnect instrument panel wire harness connectors I-034 and I-038.
- l. Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-034 and I-038 according to table below.

Multimeter Connection	Condition	Specified Condition
I-034 (8) - I-038 (1)	Always	Continuity
I-034 (7) - I-038 (2)	Always	Continuity



- m. Disconnect instrument panel wire harness connectors I-034 and I-036.
- n. Using a digital multimeter, check for continuity between connectors I-034 and I-036 according to table below.

Multimeter Connection	Condition	Specified Condition
I-034 (14) - I-036 (1)	Always	Continuity
I-034 (6) - I-036 (2)	Always	Continuity



5

Reconfirm DTCs

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

38 - DOOR LOCK

NG

Replace Passive Entry & Passive Start
(PEPS) controller

OK

System is normal

38

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



ON-VEHICLE SERVICE

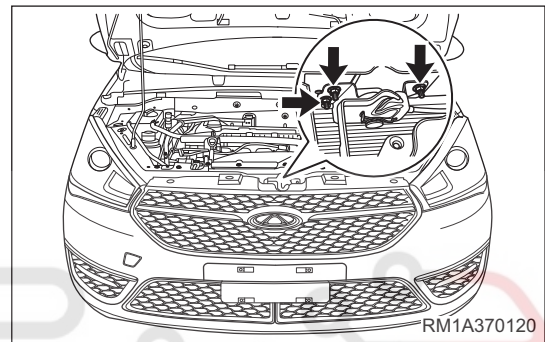
Engine Hood Lock Assembly

Removal

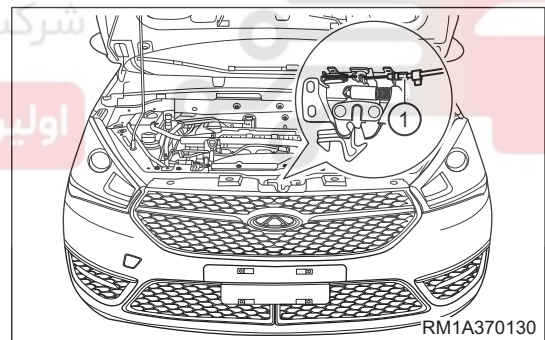
CAUTION

- Be sure to wear necessary safety equipment to prevent accidents, when removing engine hood lock assembly.
- Try to prevent body paint surface from being scratched, when removing engine hood lock assembly.

1. Remove the engine hood lock assembly.
 - a. Remove 3 fixing nuts (arrow) from engine hood lock assembly.
(Tightening torque: 9 ± 1 N·m)



- b. Disengage engine hood cable assembly (1) from slot and remove engine hood lock assembly.



38

Installation

Installation is in the reverse order of removal.

CAUTION

- Check if engine hood operates properly, after installing engine hood lock assembly.

Front Door Lock Assembly

Removal

HINT:

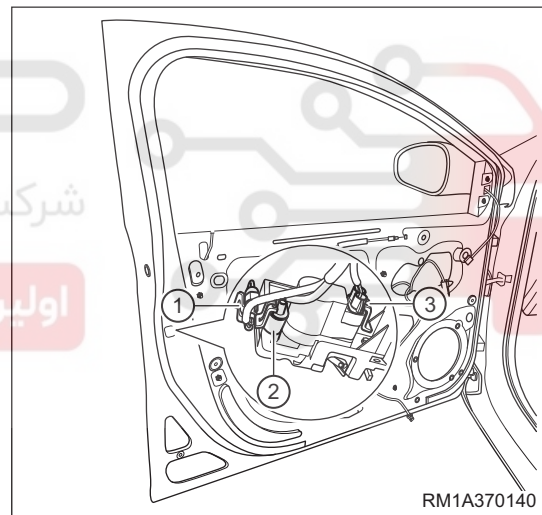
- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

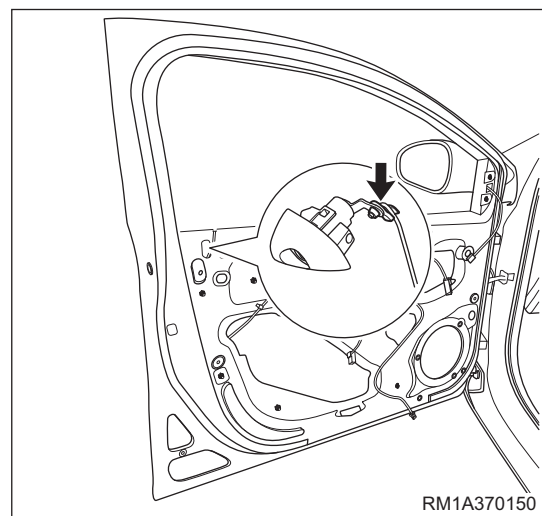
- Be sure to wear necessary safety equipment to prevent accidents, when removing front door lock assembly.
- Try to prevent interior and body paint from being scratched, when removing front door lock assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front left door inner protector assembly (See page 48-19).
4. Remove the front left door protective film assembly (See page 48-22).
5. Remove the front left door glass rear guide rail assembly (See page 44-55).
6. Remove the front left door lock assembly.
 - a. Disconnect connectors (1), (2) and (3) from front door lock assembly.

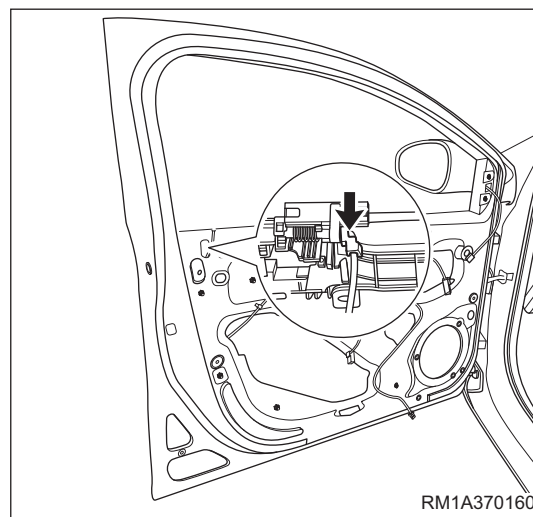
38



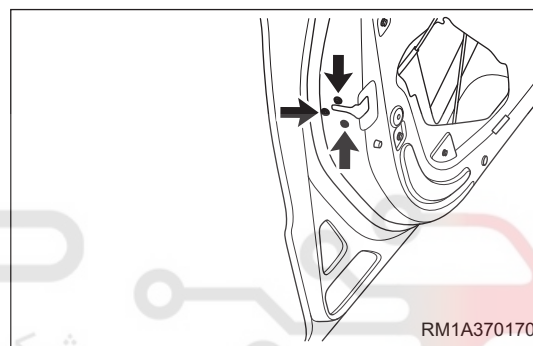
- b. Disengage clip (arrow) between front door lock assembly and front door key cylinder lever.



- c. Disengage front door outside handle cable (arrow) from slot of front door handle base.



- d. Disengage clip from front door inside handle cable.
- e. Remove 3 fixing screws (arrow) from front door lock assembly, and remove front door lock assembly. (Tightening torque: 9 ± 1 N·m)



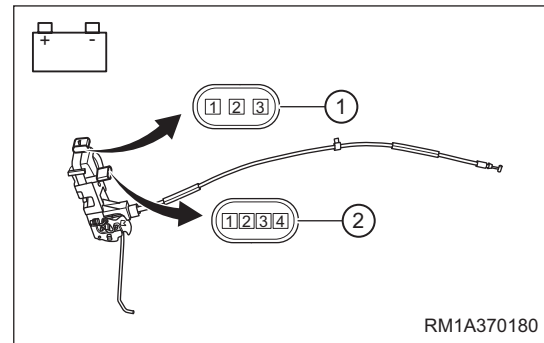
38 - DOOR LOCK

Inspection

1. Check the front door lock assembly (fastener assembly).
 - a. Apply battery voltage to terminals of front left door fastener assembly connector and check if front door lock assembly operates normally according to table below.

Front left door lock assembly

Measurement Condition	Specified Condition
Battery positive (+) - Terminal 1 Battery negative (-) - Terminal 2	Lock
Battery positive (+) - Terminal 2 Battery negative (-) - Terminal 1	Unlock

**Front right door lock assembly**

Measurement Condition	Specified Condition
Battery positive (+) - Terminal 1 Battery negative (-) - Terminal 2	Lock
Battery positive (+) - Terminal 2 Battery negative (-) - Terminal 1	Unlock

If result is not as specified, replace front door lock assembly.

Installation

Installation is in the reverse order of removal.

CAUTION

- Check if connector is installed correctly, when installing front door lock assembly.
- Install clips and cables in place, when installing front door lock assembly.
- Check if front door lock operates properly, after installing front door lock assembly.

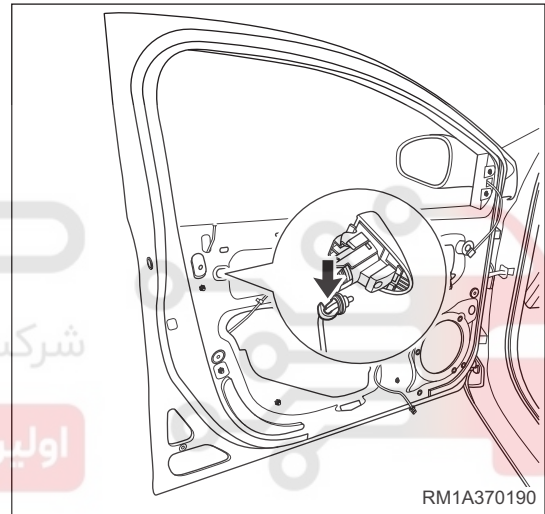
Front Door Key Cylinder Assembly

Removal

CAUTION

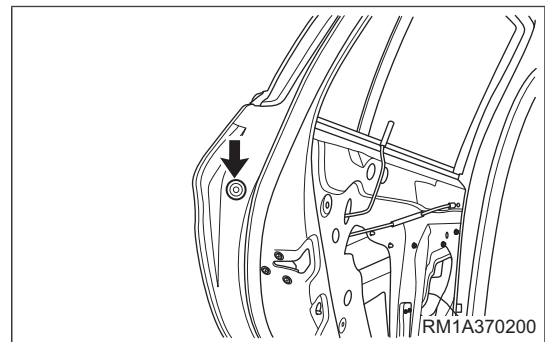
- Be sure to wear necessary safety equipment to prevent accidents, when removing front door key cylinder assembly.
- Try to prevent body paint surface from being scratched, when removing front door key cylinder assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front left door inner protector assembly (See page 48-19).
4. Remove the front left door protective film assembly (See page 48-22).
5. Remove the front left door key cylinder assembly.
 - a. Disengage clip (arrow) between front door lock assembly and front door key cylinder lever.



38

- b. Remove the front door outside handle protective cover block cover (arrow).

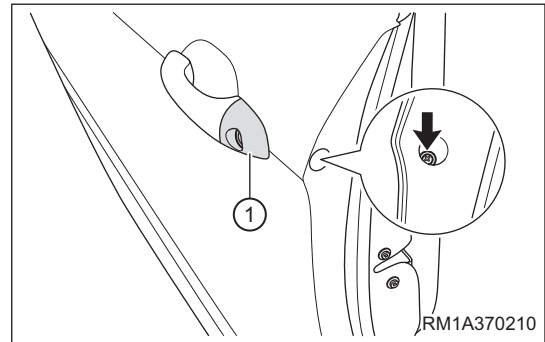


38 - DOOR LOCK

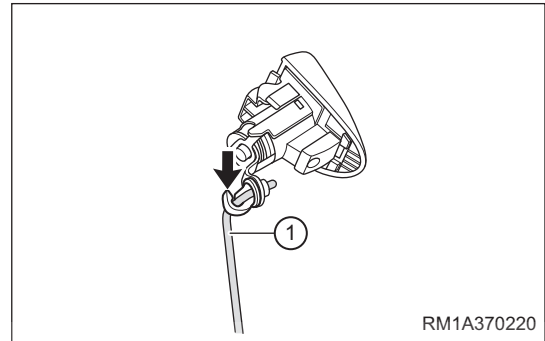
- c. Loosen fixing screw (arrow) from front door key cylinder assembly, and remove front door key cylinder assembly and front door handle protective cover (1).
(Tightening torque: $9 \pm 1 \text{ N}\cdot\text{m}$)

HINT:

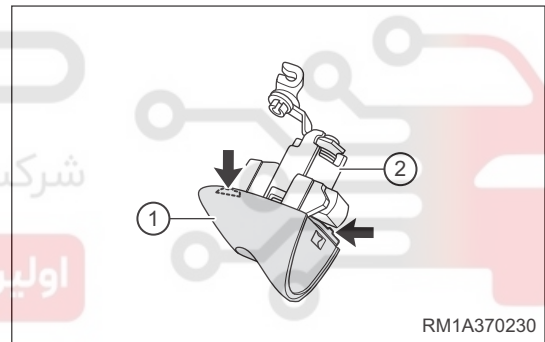
It is not necessary to remove fixing screw from front door key cylinder assembly, because fixing screw is integrated with front door handle base.



- d. Disengage clip (arrow) from front door key cylinder lever, and remove front door key cylinder lever (1).



- e. Using a screwdriver wrapped with protective tape, disengage claws (arrow) and separate front door handle protective cover (1) from front door key cylinder assembly (2).



38

Installation

Installation is in the reverse order of removal.

CAUTION

- Install clip on lever in place, when installing front door key cylinder assembly.
- Check if front door key cylinder operates properly, after installing front door key cylinder assembly.

Front Door Lock Striker Assembly

Removal

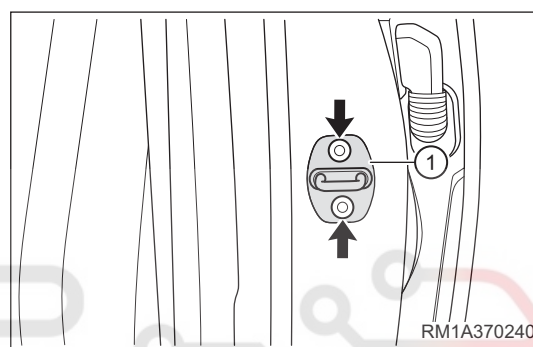
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

- Be sure to wear necessary safety equipment to prevent accidents, when removing front door lock striker assembly.
- Try to prevent body paint surface from being scratched, when removing front door lock striker assembly.

1. Remove the front left door lock striker assembly.
 - a. Remove 2 fixing screws (arrow) from front door lock striker assembly, and remove front left door lock striker assembly (1).
(Tightening torque: 23 ± 2 N·m)



38

Installation

Installation is in the reverse order of removal.

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

Rear Door Lock Assembly

Removal

HINT:

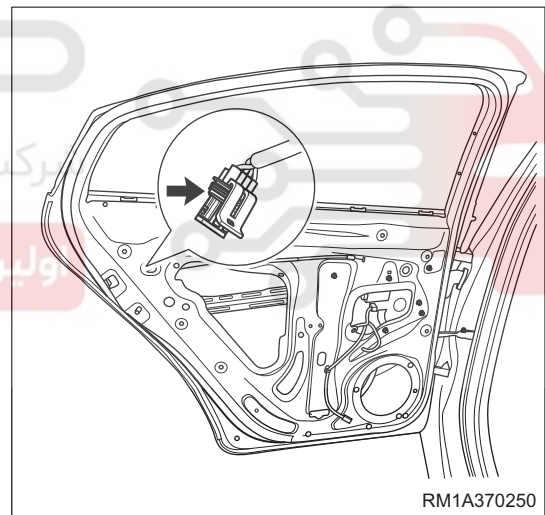
- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

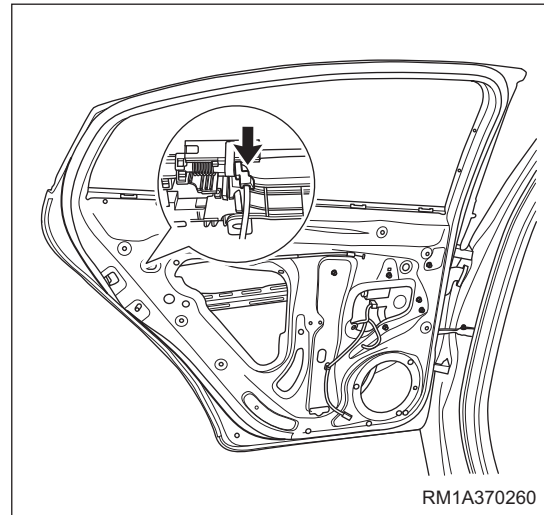
- Be sure to wear necessary safety equipment to prevent accidents, when removing rear door lock assembly.
- Try to prevent interior and body paint from being scratched, when removing rear door lock assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear left door inner protector assembly (See page 48-31).
4. Remove the rear left door metal bracket (See page 48-34).
5. Remove the rear left door protective film assembly (See page 48-34).
6. Remove the rear left door glass rear guide rail assembly (See page 44-65).
7. Remove the rear left door lock assembly.

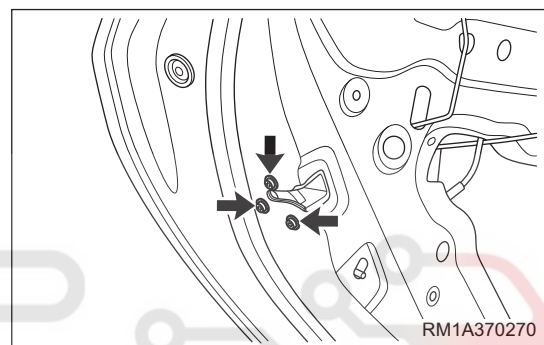
- a. Disconnect connector (arrow) from rear door lock assembly.



- b. Disengage rear door outside handle cable (arrow) from slot of rear door handle base.



- c. Remove 3 fixing screws (arrow) from rear door lock assembly, and remove rear door lock assembly. (Tightening torque: $9 \pm 1 \text{ N}\cdot\text{m}$)



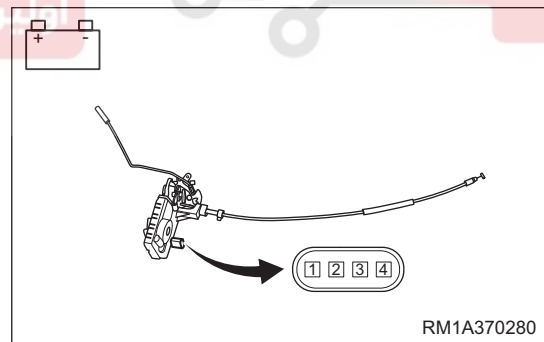
38

Inspection

1. Check the rear door lock assembly (fastener assembly).
 - a. Apply battery voltage to terminals of rear door lock assembly (fastener assembly) connector and check operation of rear door lock assembly according to table below.

Rear left door lock assembly

Measurement Condition	Specified Condition
Battery positive (+) - Terminal 1 Battery negative (-) - Terminal 2	Lock
Battery positive (+) - Terminal 2 Battery negative (-) - Terminal 1	Unlock



38 - DOOR LOCK

Rear right door lock assembly

Measurement Condition	Specified Condition
Battery positive (+) - Terminal 1 Battery negative (-) - Terminal 2	Lock
Battery positive (+) - Terminal 1 Battery negative (-) - Terminal 2	Unlock

If result is not as specified, replace rear door lock assembly.

Installation

Installation is in the reverse order of removal.

CAUTION

- Check if connector is installed correctly, when installing rear door lock assembly.
- Install cable in place, when installing rear door lock assembly.
- Check if rear door lock operates properly, after installing rear door lock assembly.



Rear Door Lock Striker Assembly

Removal

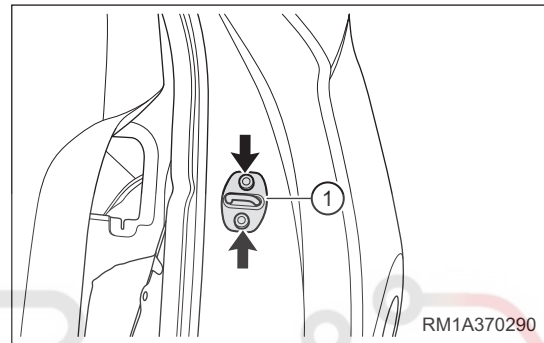
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

- Be sure to wear necessary safety equipment to prevent accidents, when removing rear door lock striker.
- Try to prevent body paint surface from being scratched, when removing rear door lock striker.

1. Remove the rear left door lock striker assembly.
 - a. Remove 2 fixing screws (arrow) from rear door lock striker, and remove rear left door lock striker assembly (1).
(Tightening torque: $23 \pm 2 \text{ N}\cdot\text{m}$)



Installation

Installation is in the reverse order of removal.

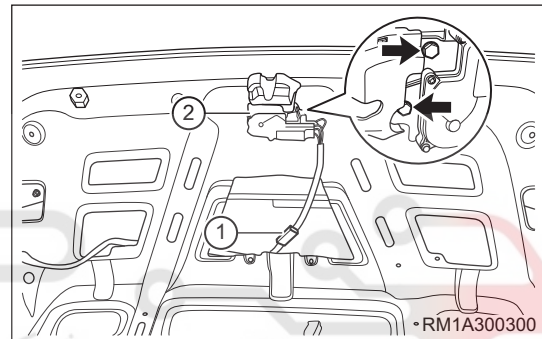
Luggage Compartment Lock Assembly

Removal

CAUTION

- Be sure to wear necessary safety equipment to prevent accidents, when removing luggage compartment lock assembly.
- Try to prevent interior and body paint from being scratched, when removing luggage compartment lock assembly.

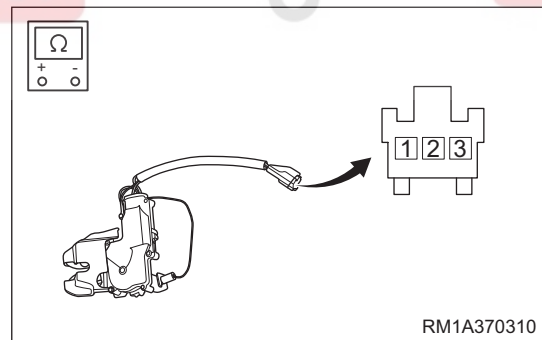
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the luggage compartment door trim assembly (See page 48-42).
4. Remove the luggage compartment lock assembly.
 - a. Disconnect connector (1) from luggage compartment lock assembly.
 - b. Remove 2 fixing screws (arrow) from luggage compartment lock assembly, and remove luggage compartment lock assembly (2).
(Tightening torque: $9 \pm 1 \text{ N}\cdot\text{m}$)



Inspection

1. Check the luggage compartment lock assembly.
 - a. Using a digital multimeter, check for continuity between terminals of luggage compartment lock assembly according to table below.

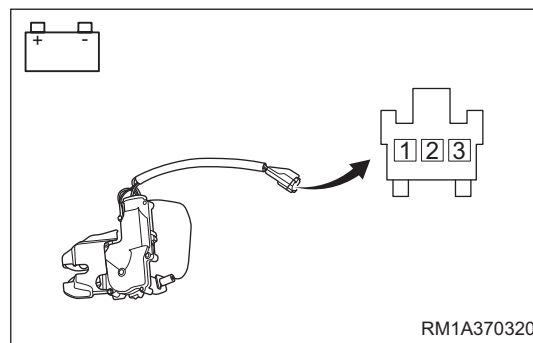
Multimeter Connection	Switch Condition	Specified Condition
Terminal 1 - Terminal 2	ON	Continuity
	OFF	Continuity
Terminal 2 - Terminal 3	ON	Continuity
	OFF	No continuity



- b. Apply battery voltage to terminals of luggage compartment lock assembly connector and check operation of luggage compartment lock assembly according to table below.

Measurement Condition	Specified Condition
Battery positive (+) - Terminal 1 Battery negative (-) - Terminal 2	ON
Battery positive (+) - Terminal 2 Battery negative (-) - Terminal 3	OFF

If result is not as specified, replace luggage compartment lock assembly.



Installation

Installation is in the reverse order of removal.

CAUTION

- Check if connector is installed correctly, when installing luggage compartment lock assembly.
- Check if luggage compartment lock operates properly, after installing luggage compartment lock assembly.

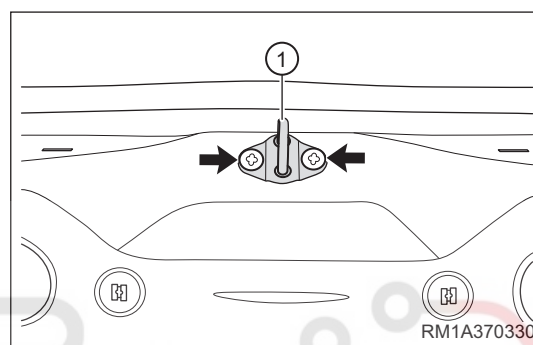
Luggage Compartment Lock Striker Assembly

Removal

CAUTION

- Be sure to wear necessary safety equipment to prevent accidents, when removing luggage compartment lock striker assembly.
- Try to prevent body paint surface from being scratched, when removing luggage compartment lock striker assembly.

1. Remove the luggage compartment doorsill pressure plate assembly (See page 50-11).
2. Remove the luggage compartment lock striker assembly.
 - a. Remove 2 fixing screws (arrow) from luggage compartment lock striker assembly, and remove luggage compartment lock striker assembly (1).
(Tightening torque: 23 ± 2 N·m)



Installation

Installation is in the reverse order of removal.

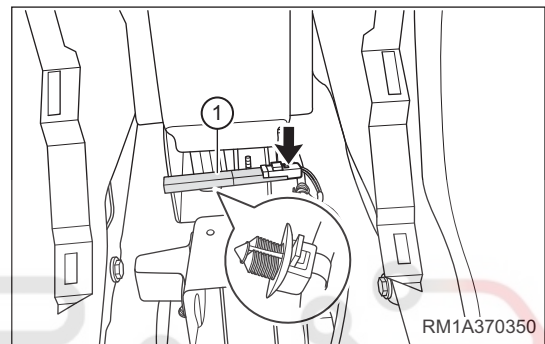
Low Frequency Antenna

Removal

CAUTION

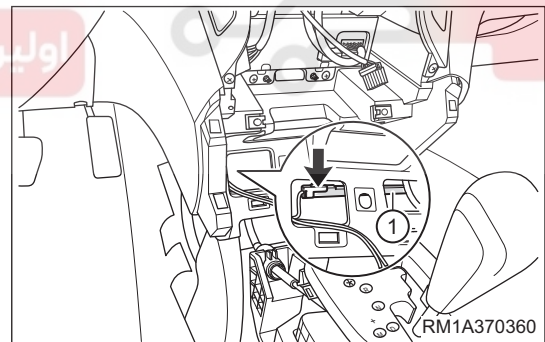
- Be sure to wear safety equipment to prevent accidents, when removing low frequency antenna.
- Try to prevent body paint surface from being scratched, when removing low frequency antenna.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the center low frequency antenna.
 - a. Remove the auxiliary fascia console assembly (See page 46-8).
 - b. Disconnect the center low frequency antenna connector (arrow).
 - c. Disengage clip on center low frequency antenna, and remove center low frequency antenna (1).

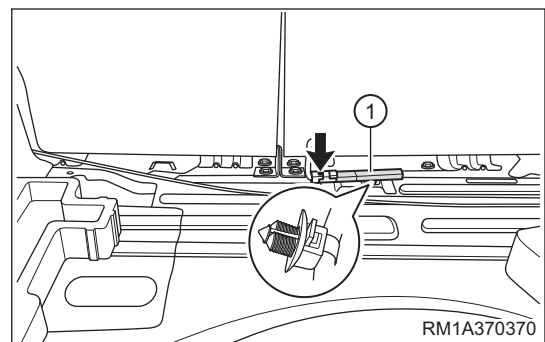


38

4. Remove the front low frequency antenna.
 - a. Remove the auxiliary fascia console assembly (See page 46-8).
 - b. Disconnect the front low frequency antenna connector (arrow).
 - c. Disengage clip on front low frequency antenna, and remove front low frequency antenna (1).

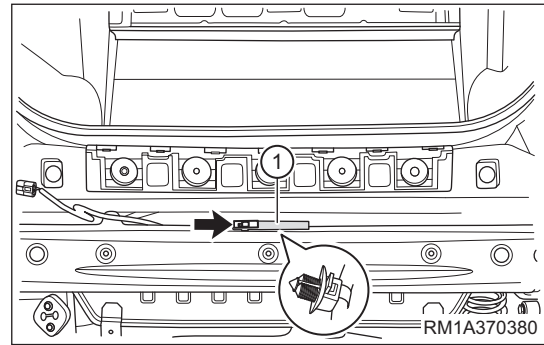


5. Remove the rear low frequency antenna.
 - a. Remove the luggage compartment carpet assembly (See page 50-32).
 - b. Disconnect the rear low frequency antenna connector (arrow).
 - c. Disengage clip on rear low frequency antenna, and remove rear low frequency antenna (1).

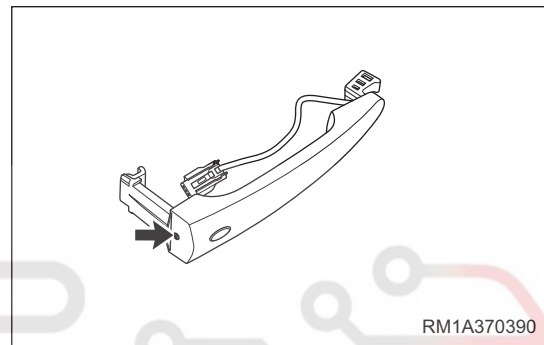


38 - DOOR LOCK

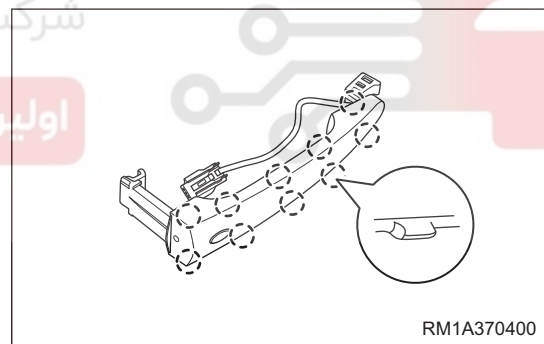
6. Remove the luggage compartment door handle sensor.
 - a. Remove the rear bumper assembly (See page 49-21).
 - b. Disconnect the luggage compartment door handle sensor (arrow).
 - c. Disengage clip on luggage compartment door handle sensor, and remove luggage compartment door handle sensor (1).



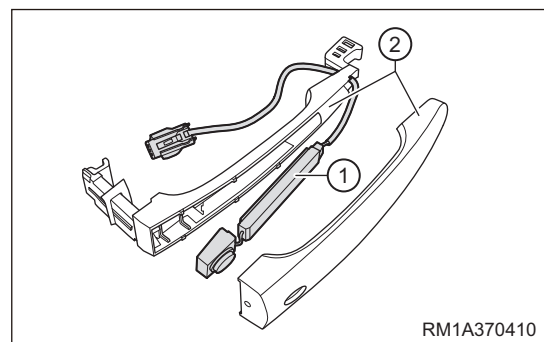
7. Remove the front left door handle sensor (built-in low frequency antenna) (take left side as an example).
 - a. Remove the front left door outside handle (See page 48-23).
 - b. Remove fixing screw (arrow) from front door outside handle.
(Tightening torque: 1.5 N·m)



- c. Using a screwdriver wrapped with protective tape, pry up claws from front door outside handle.



- d. Separate front door handle sensor (1) from front door outside handle (2).



Installation

Installation is in the reverse order of removal.

CAUTION

- When installing low frequency antenna, antenna clip should be well fitted with antenna mounting bracket.
- Check if low frequency antenna functions properly after installation.

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Wireless Key

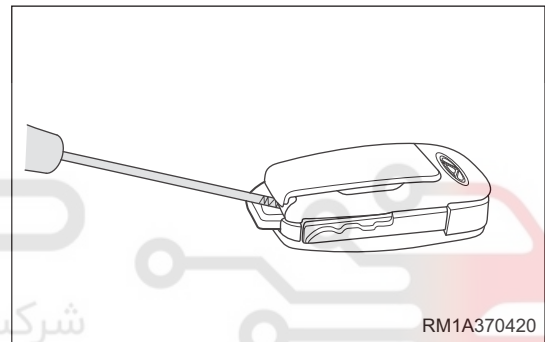
Removal

CAUTION

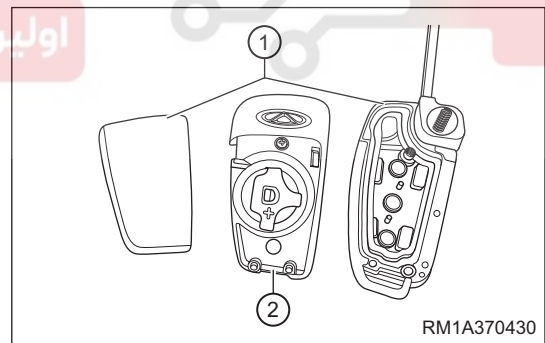
- DO NOT push terminals with hands, when removing wireless key cover.
- Make sure battery positive and negative are installed correctly, when removing wireless key cover.
- DO NOT pry up battery forcibly, after removing wireless key cover. Otherwise, terminals may be damaged.
- DO NOT touch battery with wet hands, after removing wireless key cover. Otherwise, water may cause rust.
- DO NOT touch or move any components inside transmitter, after removing wireless key cover. Failure to do so may interfere with proper operation.

1. Remove the wireless key.

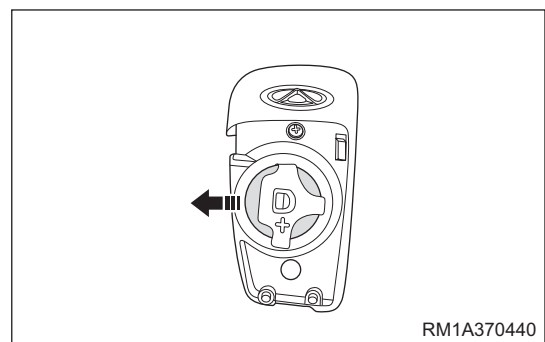
- Using a screwdriver wrapped with protective tape, pry off wireless key cover as shown in illustration.



- Separate wireless key covers (1) and chip (2).



- Disengage claw (arrow) from battery holder, and remove battery in direction of arrow.



Installation

Installation is in the reverse order of removal.

CAUTION

- Check that wireless key operates properly, after installing wireless key.

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INSTRUMENT CLUSTER

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دیجیتال خودرو

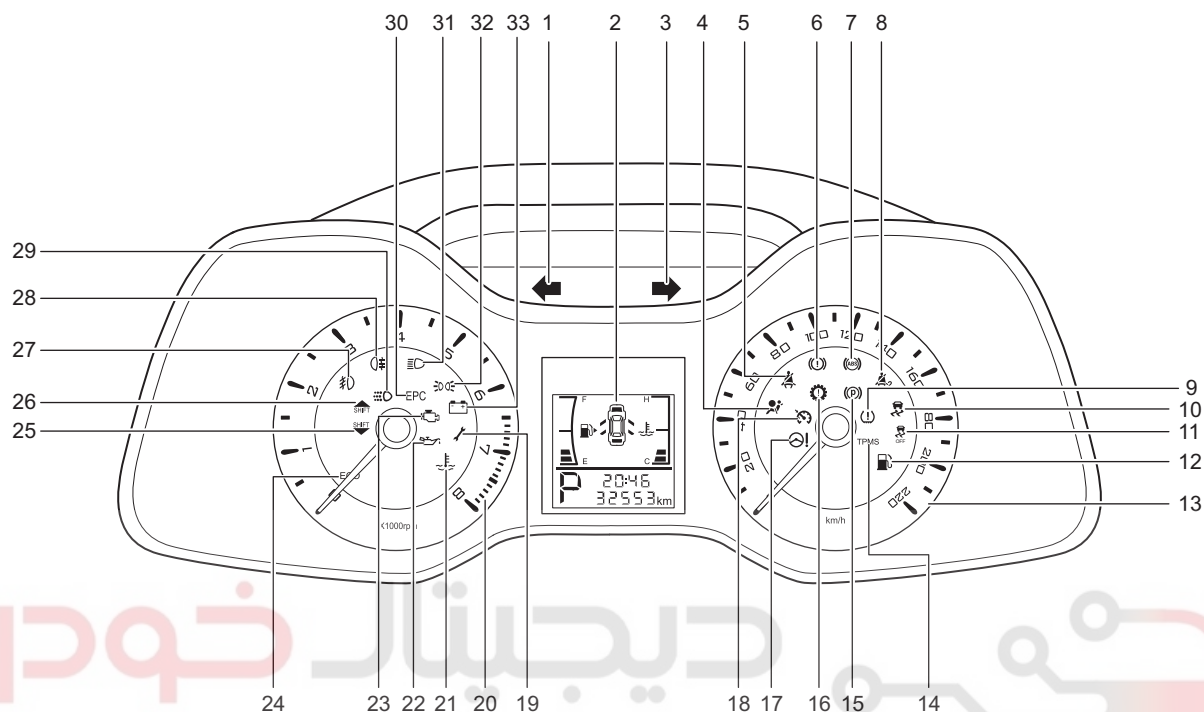
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GENERAL INFORMATION

Description



RM1A380010

39 - INSTRUMENT CLUSTER

1 - Left Turn Signal Indicator	2 - Multi-information Display
3 - Right Turn Signal Indicator	4 - SRS Warning Light
5 - Driver Seat Belt Reminder Light	6 - Transmission Malfunction Warning Light (for CVT Model)
7 - ABS Warning Light	8 - Front Passenger Seat Belt Reminder Light (if equipped)
9 - Low Tire Pressure and Tire Pressure System Malfunction Indicator (if equipped)	10 - ESP System Malfunction Indicator (if equipped)
11 - ESP OFF Indicator (if equipped)	12 - Low Fuel Level Warning Light
13 - Speedometer	14 - Low Tire Pressure Warning Light (if equipped)
15 - Parking Brake Indicator	16 - Transmission Malfunction Indicator
17 - EPS Malfunction Indicator	18 - Cruise Indicator (if equipped)
19 - Maintenance Indicator	20 - Tachometer
21 - High Coolant Temperature Warning Light	22 - Low Engine Oil Pressure Warning Light
23 - Engine Malfunction Warning Light	24 - ECO Indicator
25 - Upshift Reminder Light (for CVT Model)	26 - Downshift Reminder Light (for CVT Model)
27 - Front Fog Indicator	28 - Rear Fog Indicator
29 - High Beam Indicator	30 - EPC Warning Light
31 - Low Beam Indicator	32 - Position Indicator
33 - Charging Warning Light/Intelligent Alternator Malfunction Warning Light	

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This vehicle is equipped with pointer type instrument cluster. Instrument cluster is a highly integrated electronic instrument display system and mainly consists of engine coolant temperature gauge, tachometer, fuel gauge, speedometer, multi-information display and warning indication symbols. Multi-information display mainly displays vehicle information, which contains following items: clock, trip mileage, total mileage and instantaneous fuel consumption.

Operation

Instrument cluster is located in the upper left of instrument panel assembly, which is used to monitor and display the operation status of each system and component in vehicle at all times. Instrument cluster receives signals from each sensor and switch, and displays operation status of each system through meters, multi-information display, indicators and warning lights, and also reminds and informs driver by flashing lights and sounding buzzer. As a result, it will be helpful for driver to eliminate possible troubles in time, thus avoiding malfunctions or accidents efficiently.

Specification

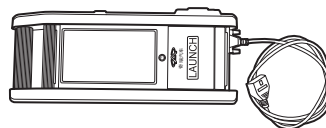
Torque Specification

Description	Torque (N·m)
Instrument Cluster Fixing Screw	1.5 ± 0.5

Tools

Special Tool

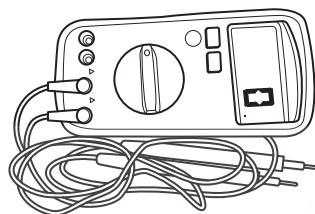
X-431 3G Diagnostic Tester



RCH0000001

General Tool

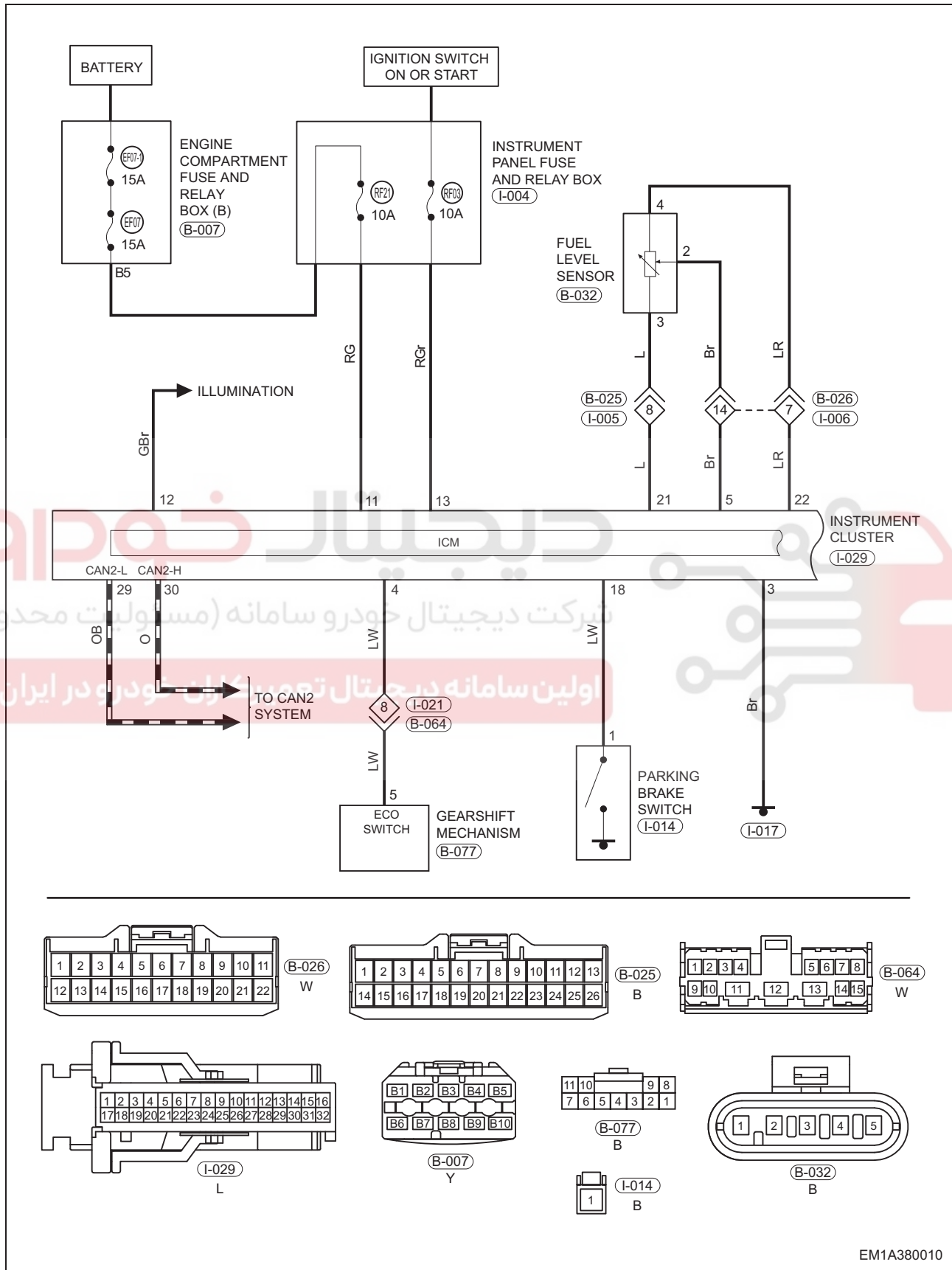
Digital Multimeter



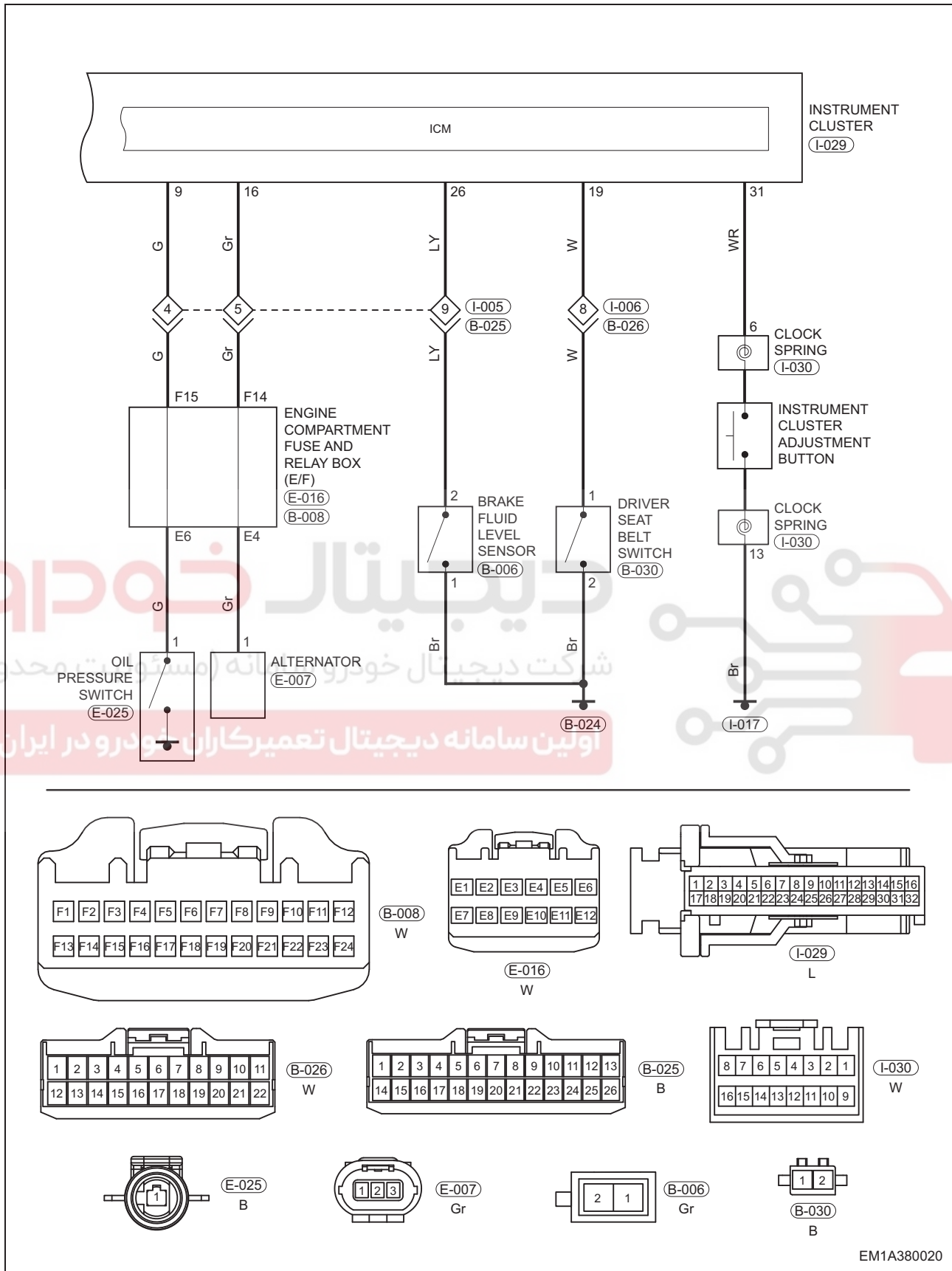
RCH0000002

Circuit Diagram

Instrument Cluster (Page 1 of 2)



Instrument Cluster (Page 2 of 2)



Instrument Cluster Terminal List

Terminal No.	Terminal Definition	Terminal No.	Terminal Definition
1	- SLD Input (Reserved)	17	- /
2	- Coolant Level Signal Input (Reserved)	18	- Parking Brake Switch Signal
3	- Power Supply Ground	19	- Driver Seat Belt Unfasten Indication Signal
4	- ECO Low Level Input	20	- /
5	- Fuel Level Sensor Ground	21	- Fuel Level Signal Input
6	- /	22	- Fuel Level Auxiliary Signal Input
7	- Vehicle Speed Frequency Signal Output	23	- /
8	- PTC High/Low Level Output	24	- /
9	- Engine Oil Pressure Indication Signal Input	25	- /
10	- /	26	- Brake Fluid Level Signal Input
11	- Battery Power Supply (KL30)	27	- Vehicle Speed Frequency Signal Input
12	- Backlight Illumination Input	28	- /
13	- Ignition Switch Power Supply (KL15)	29	- CAN-L2
14	- /	30	- CAN-H2
15	- /	31	- Steering Wheel Key Input (Menu/ Setup)
16	- Charging System Indication Signal Input	32	- SLD OFF Indication Output (Reserved)

DIAGNOSIS & TESTING

Problem Symptoms Table

HINT:

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

Symptom	Suspected Area	See page
Entire instrument cluster does not operate	Fuse	54-32
	Wire harness or connector	-
	Instrument cluster	39-49
Vehicle speed display abnormal	Wheel speed sensor	-
	Wire harness or connector	-
	Instrument cluster	39-49
Tachometer abnormal	Engine speed sensor	-
	Wire harness or connector	-
	Instrument cluster	39-49
	Engine Control Module (ECM)	06-290
Fuel gauge abnormal	Fuel level sensor	-
	Wire harness or connector	-
	Instrument cluster	39-49
Position indicator abnormal	Position light switch (combination light switch assembly)	36-83
	Wire harness or connector	-
	Body Control Module (BCM)	-
	Instrument cluster	39-49
Turn signal indicator abnormal	Turning light switch (combination light switch assembly)	36-83
	Wire harness or connector	-
	Body Control Module (BCM)	-
	Instrument cluster	39-49
Headlight high beam indicator abnormal	Headlight high beam switch (combination light switch assembly)	36-83
	Wire harness or connector	-
	Body Control Module (BCM)	-
	Instrument cluster	39-49
Rear fog indicator abnormal	Rear fog light switch (combination light switch assembly)	36-83
	Wire harness or connector	-
	Body Control Module (BCM)	-
	Instrument cluster	39-49

39 - INSTRUMENT CLUSTER

Symptom	Suspected Area	See page
Charging system warning light abnormal	Alternator	16-11
	Wire harness or connector	-
	Instrument cluster	39-49
Low engine oil pressure warning light abnormal	Engine oil level	-
	Engine oil pressure switch	13-16
	Wire harness or connector	-
	Instrument cluster	39-49
ABS warning light abnormal	ABS control unit assembly	25-80
	CAN line or connector	-
	Instrument cluster	39-49
Low fuel level warning light abnormal	Fuel amount in tank	-
	Fuel level sensor	-
	Wire harness or connector	-
	Instrument cluster	39-49
Coolant temperature warning light abnormal	Coolant level	12-11
	Extremely high engine coolant temperature	-
	Coolant temperature sensor	-
	Wire harness or connector	-
	Engine Control Module (ECM)	06-290
	Instrument cluster	39-49
Engine malfunction warning light abnormal	CAN line or connector	-
	Engine Control Module (ECM)	06-290
	Instrument cluster	39-49
SRS warning light abnormal	CAN line or connector	-
	Airbag control module (SRS)	31-100
	Instrument cluster	39-49
Driver seat belt reminder light abnormal	Driver seat belt buckle switch	-
	Wire harness or connector	-
	Instrument cluster	39-49
Front passenger seat belt reminder light abnormal (if equipped)	Front passenger seat belt buckle switch	-
	Wire harness or connector	-
	Instrument cluster	39-49
Brake system warning light abnormal	Low brake fluid level	26-16
	Parking brake switch	27-9
	Wire harness or connector	-
	Instrument cluster	39-49

Symptom	Suspected Area	See page
Cruise indicator abnormal (if equipped)	Cruise control switch (multi-function switch)	35-8
	Wire harness or connector	-
	Instrument cluster	39-49
Transmission malfunction warning light abnormal	Transmission Control Unit (TCU)	18-8
	CAN line or connector	-
	Instrument cluster	39-49
Low tire pressure warning light abnormal (if equipped)	Low or high tire pressure (tire pressure is not within specified range)	-
	Instrument cluster	39-49
Engine immobilizer system warning light abnormal (if equipped)	CAN line or connector	-
	Engine Control Module (ECM)	06-290
	Instrument cluster	39-49

Diagnosis Tools

X-431 3G Diagnostic Tester

When connecting X-431 3G diagnostic tester:

- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC) for communication with vehicle.
- DLC is located at driver side instrument panel crossmember.
- DLC uses a trapezoidal design which can hold 16 terminals.

Digital Multimeter

When using digital multimeter:

- Troubleshoot electrical malfunctions and wire harness system.
- Look for basic fault.
- Measure voltage, current and resistance.

Diagnostic Help

1. Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
2. Confirm that malfunction is current, and carry out diagnostic test and repair procedures.
3. If DTC cannot be deleted, the malfunction is current.
4. Only use a digital multimeter to measure voltage of electronic system.
5. Refer to any Technical Bulletin that may apply to the malfunction.
6. Visually check the related wire harness.
7. Check and clean all instrument cluster control system grounds related to the latest DTC.
8. If multiple trouble codes were set, use circuit diagrams and look for any common ground circuit or power supply circuit applied to the DTC.

Intermittent DTC Troubleshooting

If malfunction is intermittent, perform the followings:

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

Ground Inspection

Groundings are very important to entire circuit system, which are normal or not can seriously affect the entire circuit system. Ground points are often exposed to moisture, dirt and other corrosive environments. Corrosion (rust) and oxidation may increase load resistance. This situation will seriously affect the normal operation of circuit. Check the ground points as follows:

39

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

Diagnosis Procedure

HINT:

Use following procedures to troubleshoot the instrument cluster system.

1

Vehicle brought to workshop

NEXT

2

Check battery voltage

Standard voltage: 11 to 14 V

If 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 Problem repair (no DTC), then 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 been repaired

NEXT

10 End

Diagnostic Trouble Code (DTC) Chart

DTC Code	DTC Definition
B1100-13	Power Supply
B1100-16	Power Supply
B1100-17	Power Supply
B1101-11	ICU Fuel System Fault
B1101-15	ICU Fuel System Fault
B1103-00	Airbag LED Circuit
B1104-41	EEPROM Checksum Error
B110A-00	Wheel Button Fault
B110C-11	ICU Fuel Master Detect Circuit Fault
B110C-13	ICU Fuel Master Detect Circuit Fault
B110D-11	ICU Fuel Assistant Detect Circuit Fault
U0100-87	Lost Communication with EMS
U0101-87	Lost Communication with TCM
U0129-87	Lost Communication with BSM
U0131-87	Lost Communication with EPS
U0140-87	Lost Communication with BCM
U0151-87	Lost Communication with ABM
U0214-87	Lost Communication with PEPS

DTC	B1100-13	Power Supply
DTC	B1100-16	Power Supply
DTC	B1100-17	Power Supply

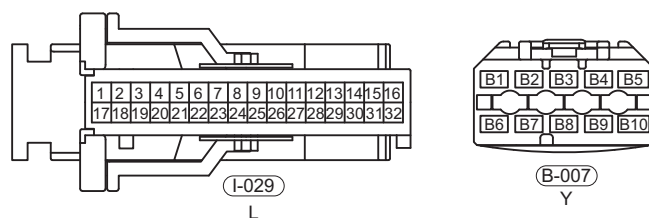
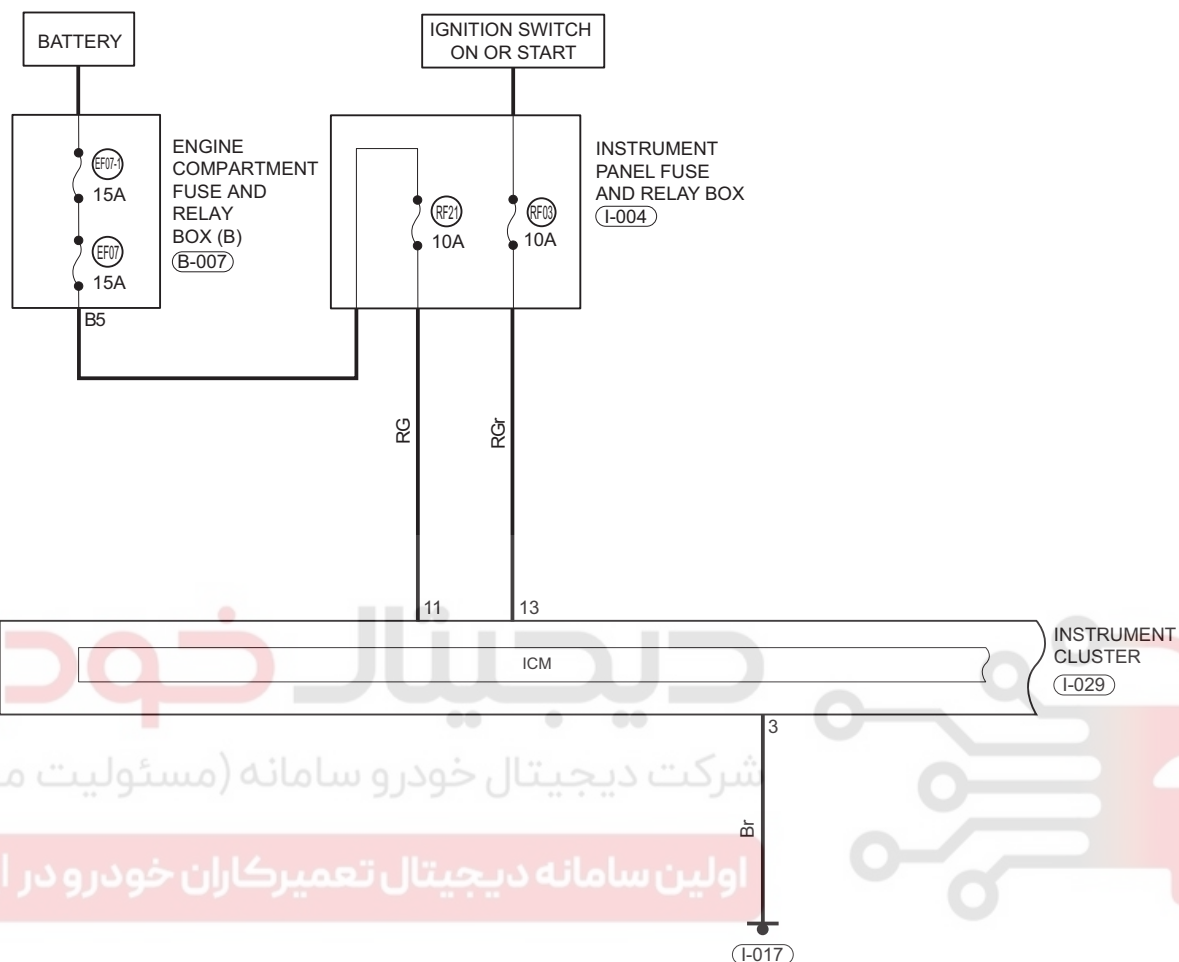
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39 - INSTRUMENT CLUSTER



EM1A380040

Self-diagnosis Detection Logic

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B1100-13	Power Supply	Ignition switch ON	- Charging system - Wire harness or connector - Instrument cluster
B1100-16	Power Supply		
B1100-17	Power Supply		

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in instrument cluster control system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 39-12](#)).

 CAUTION

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

Diagnosis Procedure

1	Check battery voltage
----------	------------------------------

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

NG

Recharge or replace battery

OK

2	Check battery terminals
----------	--------------------------------

- Check if battery terminals are loose or corroded.

NG

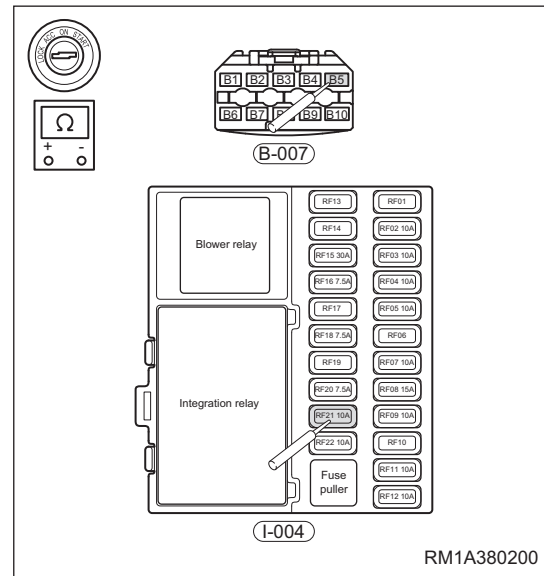
Tighten or replace battery terminals

OK

3**Check body wire harness and connector**

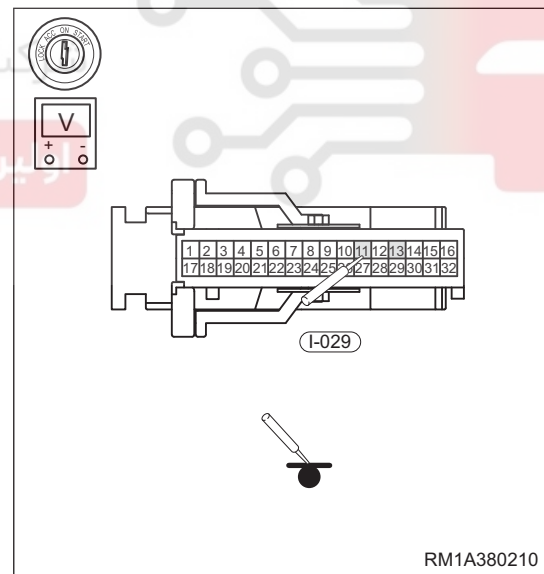
- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connector B-007 and instrument panel wire harness connector I-004.
- Using a digital multimeter, check for continuity between body wire harness connector B-007 and instrument panel wire harness connector I-004 according to table below.

Multimeter Connection	Condition	Specified Condition
B-007 (B5) - I-004 (RF21)	Always	Continuity

NG**Repair or replace body wire harness and connector****OK****4****Check instrument panel wire harness and connector**

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the instrument panel wire harness connector I-029.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between instrument panel wire harness connector I-029 and body ground according to table below, to check whether system power supply control circuit is normal.

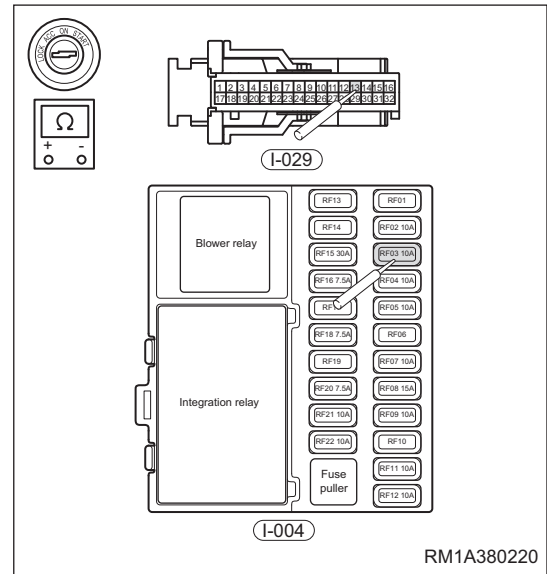
Multimeter Connection	Condition	Specified Condition
I-029 (11) - Body ground	Ignition switch ON	11 to 14 V
I-029 (13) - Body ground	Ignition switch ON	11 to 14 V



39 - INSTRUMENT CLUSTER

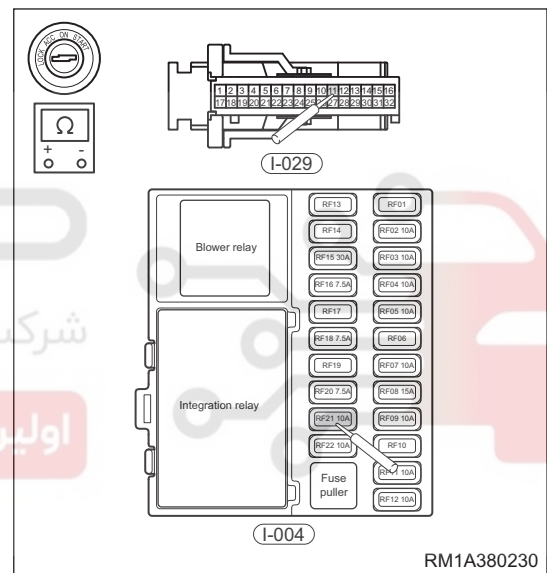
- g. Turn ignition switch to LOCK.
- h. Disconnect the negative battery cable.
- i. Disconnect instrument panel wire harness connectors I-029 and I-004.
- j. Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-029 and I-004 according to table below.

Multimeter Connection	Condition	Specified Condition
I-029 (13) - I-004 (RF03)	Always	Continuity



- k. Disconnect instrument panel wire harness connectors I-029 and I-004.
- l. Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-029 and I-004 according to table below.

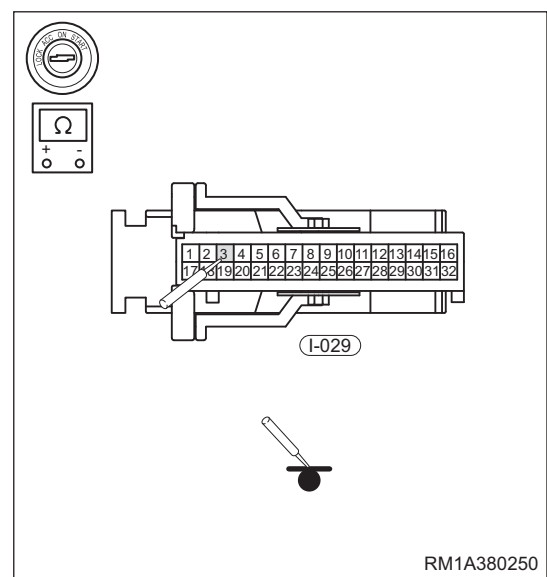
Multimeter Connection	Condition	Specified Condition
I-029 (11) - I-004 (RF21)	Always	Continuity



- m. Disconnect instrument panel wire harness connector I-029 and ground point I-017.
- n. Using a digital multimeter, check for continuity between instrument panel wire harness connector I-029 and ground point I-017 according to table below.

Multimeter Connection	Condition	Specified Condition
I-029 (3) - I-017	Always	Continuity

NG	Repair or replace instrument panel wire harness and connector
----	---



OK

5

Reconfirm DTCs

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

NG

Replace instrument cluster

OK

System is normal



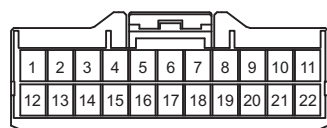
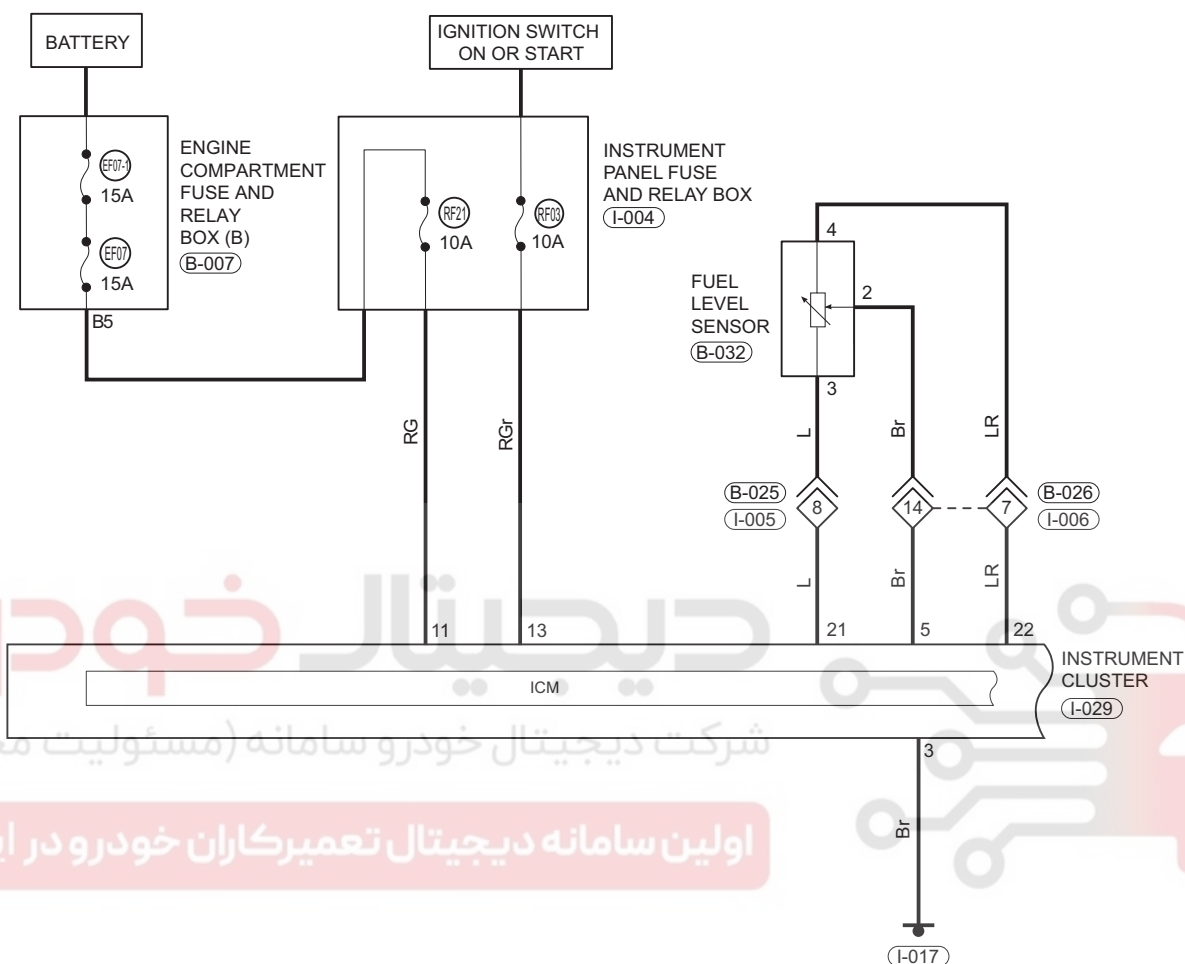
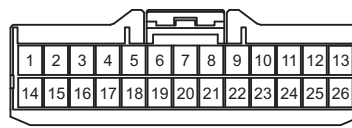
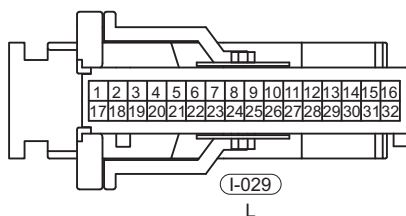
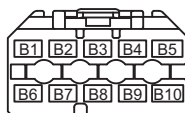
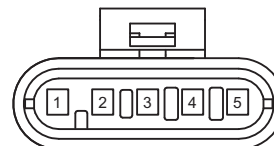
DTC	B110C-11	ICU Fuel Master Detect Circuit Fault
DTC	B110C-13	ICU Fuel Master Detect Circuit Fault
DTC	B110D-11	ICU Fuel Assistant Detect Circuit Fault

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B-026
WB-025
BI-029
LB-007
YB-032
B

EM1A380050

Self-diagnosis Detection Logic

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B110C-11	ICU Fuel Master Detect Circuit Fault	Ignition switch ON	- Fuel level sensor - Wire harness or connector - Instrument cluster
B110C-13	ICU Fuel Master Detect Circuit Fault		
B110D-11	ICU Fuel Assistant Detect Circuit Fault		

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in instrument cluster control system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 39-12](#)).

CAUTION

39

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

Diagnosis Procedure**1****Check fuel level sensor wire harness and connector**

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the fuel level sensor and fuel pump assembly connector B-032.
- Check wire harness, connector and terminal for deformation, bend or damage.

NG

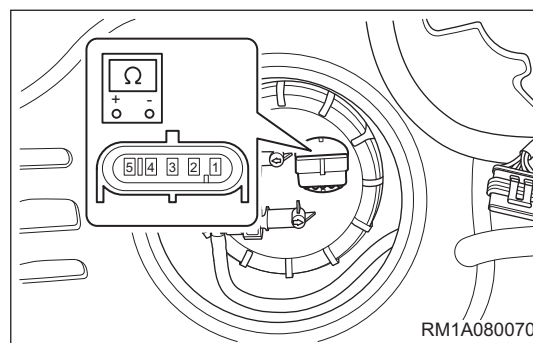
Repair or replace fuel level sensor wire harness and connector

OK

2

Check fuel level sensor

- a. Connect the negative battery cable.
- b. Turn ignition switch to ON.
- c. Read the remaining fuel amount segments from fuel gauge in instrument cluster.
- d. Turn ignition switch to LOCK.
- e. Disconnect the negative battery cable.
- f. Disconnect the fuel level sensor and fuel pump assembly connector B-032.
- g. Using a digital multimeter, measure resistance between fuel level sensor terminals 2 and 3.
- h. Check if fuel level sensor is normal according to the correspondence between oil amount segments and standard resistance of fuel level sensor shown in table below.

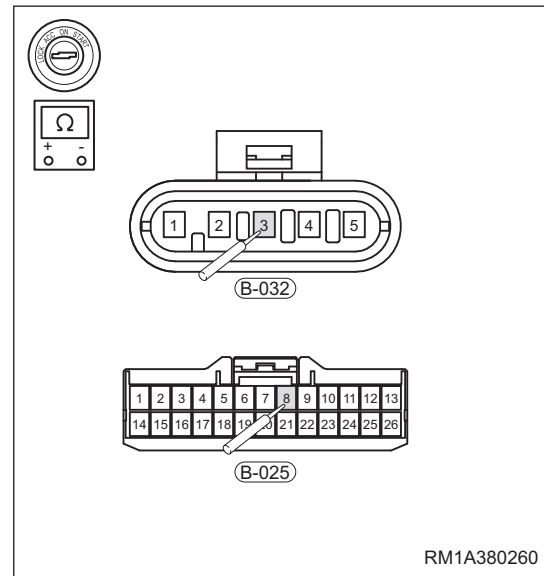


Fuel Level Indication	Multimeter Connection	Specification (Ω)
E	Terminal 3 - Terminal 2	177 ± 5
1/4	Terminal 3 - Terminal 2	125 ± 4
1/2	Terminal 3 - Terminal 2	93 ± 4
3/4	Terminal 3 - Terminal 2	62 ± 3
F	Terminal 3 - Terminal 2	20 ± 3

3**Check body wire harness and connector**

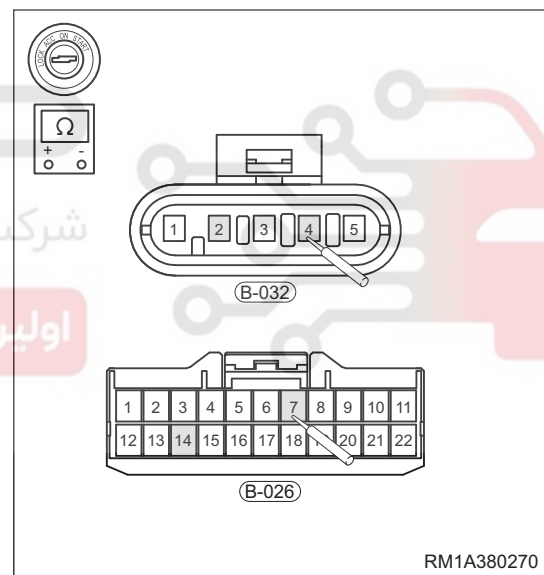
- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connectors B-025 and B-032.
- Using a digital multimeter, check for continuity between body wire harness connectors B-025 and B-032 according to table below.

Multimeter Connection	Condition	Specified Condition
B-025 (8) - B-032 (3)	Always	Continuity



- Disconnect body wire harness connectors B-026 and B-032.
- Using a digital multimeter, check for continuity between body wire harness connectors B-026 and B-032 according to table below.

Multimeter Connection	Condition	Specified Condition
B-026 (7) - B-032 (4)	Always	Continuity
B-026 (14) - B-032 (2)	Always	Continuity

**NG****Repair or replace body wire harness and connector****OK**

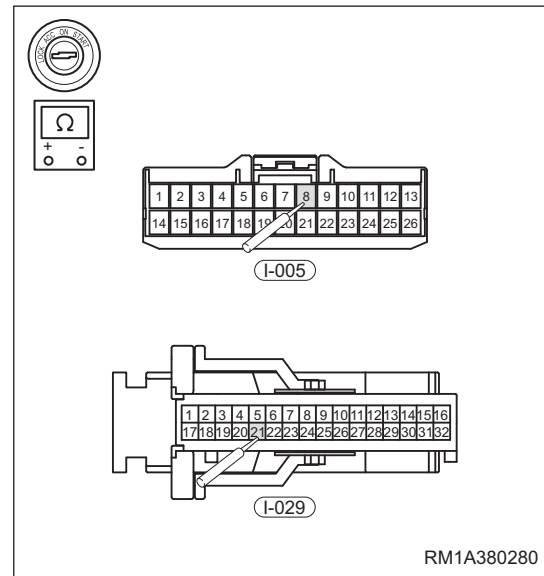
39 - INSTRUMENT CLUSTER

4

Check instrument panel wire harness and connector

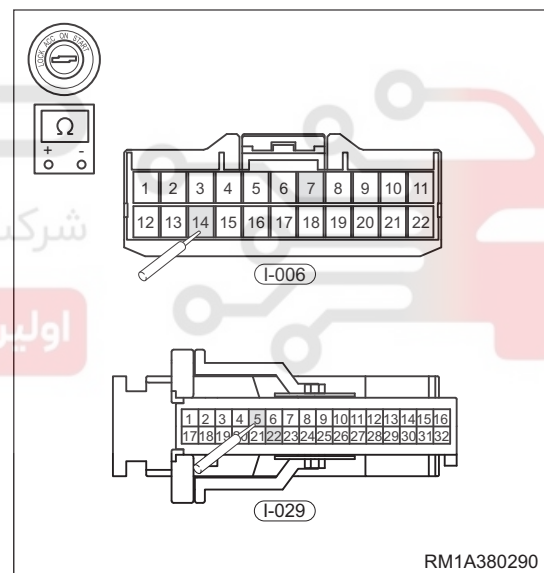
- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect instrument panel wire harness connectors I-029 and I-005.
- Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-029 and I-005 according to table below.

Multimeter Connection	Condition	Specified Condition
I-029 (21) - I-005 (8)	Always	Continuity



- Disconnect instrument panel wire harness connectors I-029 and I-006.
- Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-029 and I-006 according to table below.

Multimeter Connection	Condition	Specified Condition
I-029 (5) - I-006 (14)	Always	Continuity
I-029 (22) - I-006 (7)	Always	Continuity



NG

Repair or replace instrument panel wire harness and connector

OK

5

Reconfirm DTCs

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

NG

Replace instrument cluster

OK

System is normal

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

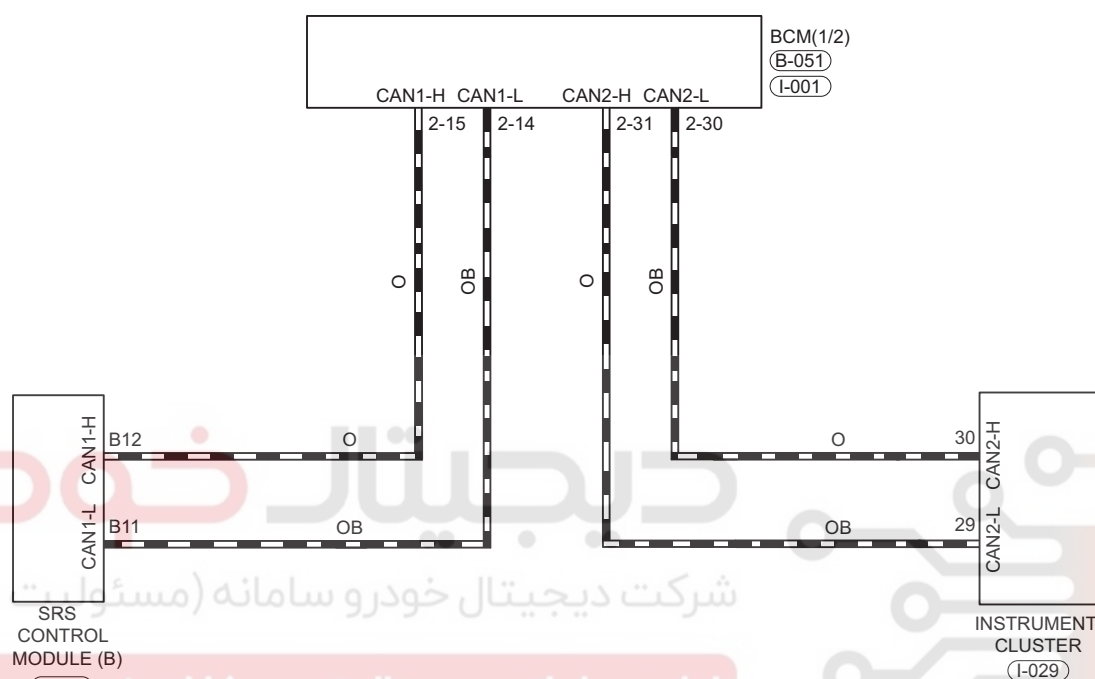
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



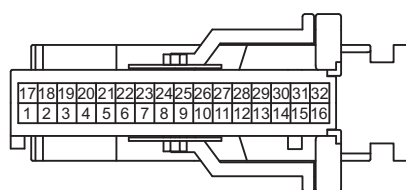
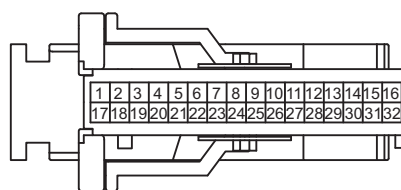
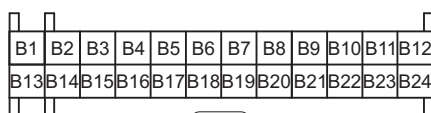
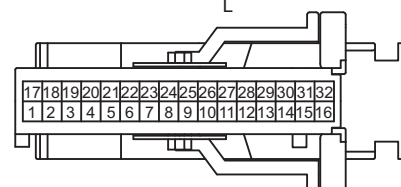
39

DTC	B1103-00	Airbag LED Circuit
DTC	U0151-87	Lost Communication with ABM





39

I-001
LI-029
LI-012
BB-051
G

EM1A380060

Self-diagnosis Detection Logic

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B1103-00	Airbag LED Circuit	Ignition switch ON	- Airbag system - Wire harness or connector - Instrument cluster
U0151-87	Lost Communication with ABM		

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in instrument cluster control system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 39-12](#)).

 CAUTION

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

39

Diagnosis Procedure

1 Check airbag

- Remove airbag from malfunctioning vehicle, and install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check airbag operation.

NG

Replace airbag

OK

2 Check airbag control module (SRS)

- Remove airbag control module (SRS) from malfunctioning vehicle, and install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check airbag control module (SRS) operation.

NG

Replace airbag control module (SRS)

OK

3

Check connector and terminal

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the airbag control module (SRS) connector I-003.
- Check wire harness, connector and terminal for deformation, bend or damage.

NG

Repair or replace connector and terminal

OK

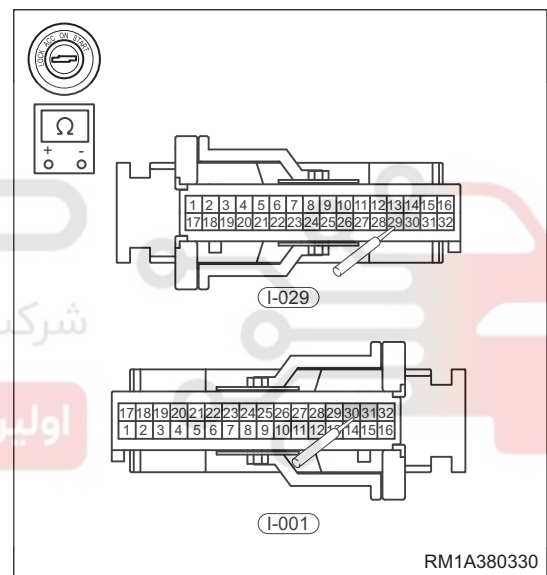
4

Check CAN line (instrument cluster - BCM)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect instrument panel wire harness connectors I-029 and I-001.
- Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-029 and I-001 according to table below.

Multimeter Connection	Specified Condition
I-029 (29) - I-001 (30)	Continuity
I-029 (30) - I-001 (31)	Continuity

NG

Repair or replace CAN line

39

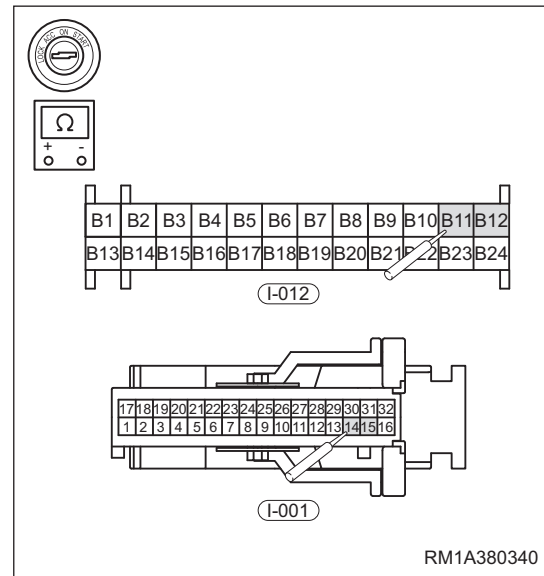
OK

39 - INSTRUMENT CLUSTER

5**Check CAN line (BCM - airbag control module (SRS))**

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect instrument panel wire harness connectors I-001 and I-012.
- Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-001 and I-012 according to table below.

Multimeter Connection	Specified Condition
I-001 (15) - I-012 (12)	Continuity
I-001 (14) - I-012 (11)	Continuity

NG**Repair or replace CAN line****OK****6****Reconfirm DTCs**

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

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

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

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

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in instrument cluster control system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 39-12](#)).

CAUTION

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

Diagnosis Procedure

1	Reconfirm DTCs
----------	-----------------------

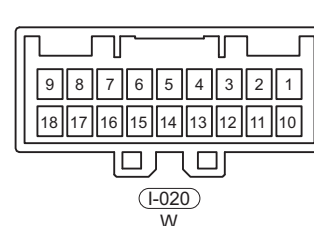
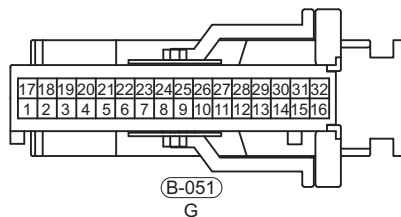
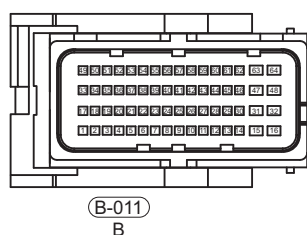
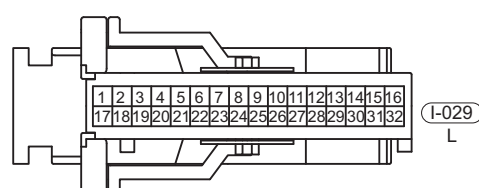
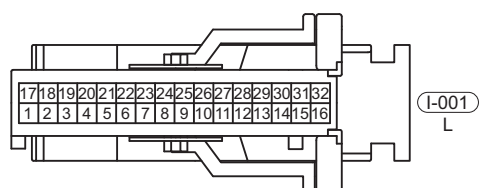
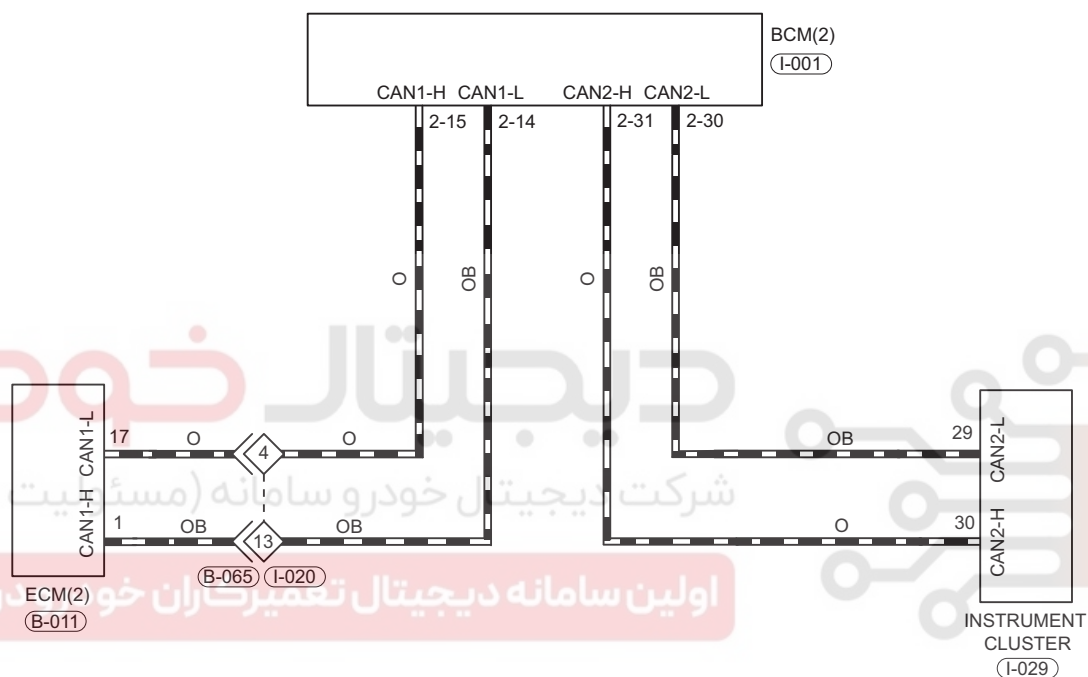
- Use X-431 3G diagnostic tester (the latest software) to clear DTCs stored in instrument cluster control system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester (the latest software) to read DTCs stored in instrument cluster control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

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

DTC

U0100-87

Lost Communication with EMS



EM1A380070

Self-diagnosis Detection Logic

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
U0100-87	Lost Communication with EMS	Ignition switch ON	- Engine Control Module (ECM) - Instrument cluster - CAN communication

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in instrument cluster control system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 39-12](#)).

 CAUTION

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

39

Diagnosis Procedure

1

Check Engine Control Module (ECM)

- Remove Engine Control Module (ECM) from malfunctioning vehicle, and install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check the operation of Engine Control Module (ECM).

NG

Replace Engine Control Module (ECM)

OK

2

Check connector and terminal

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the Engine Control Module (ECM) connector B-011.
- Check wire harness, connector and terminal for deformation, bend or damage.

NG

Repair or replace connector and terminal

OK

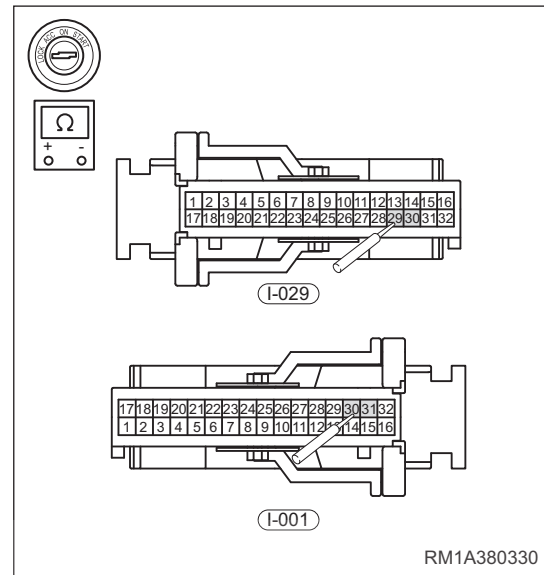
3 Check CAN line (instrument cluster - BCM)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect instrument panel wire harness connectors I-029 and I-001.
- Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-029 and I-001 according to table below.

Multimeter Connection	Specified Condition
I-029 (29) - I-001 (30)	Continuity
I-029 (30) - I-001 (31)	Continuity

NG

Repair or replace CAN line



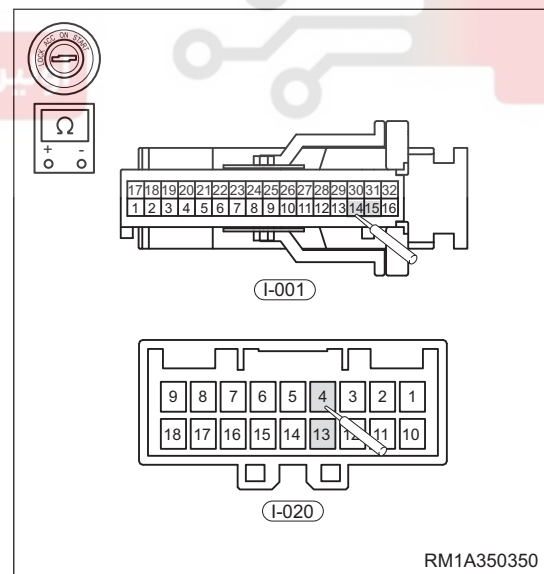
OK

39

4 Check CAN line (BCM - ECM)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connectors I-001 and I-020.
- Using a digital multimeter, check for continuity between body wire harness connectors I-001 and I-020 according to table below.

Multimeter Connection	Specified Condition
I-001 (15) - I-020 (4)	Continuity
I-001 (14) - I-020 (13)	Continuity



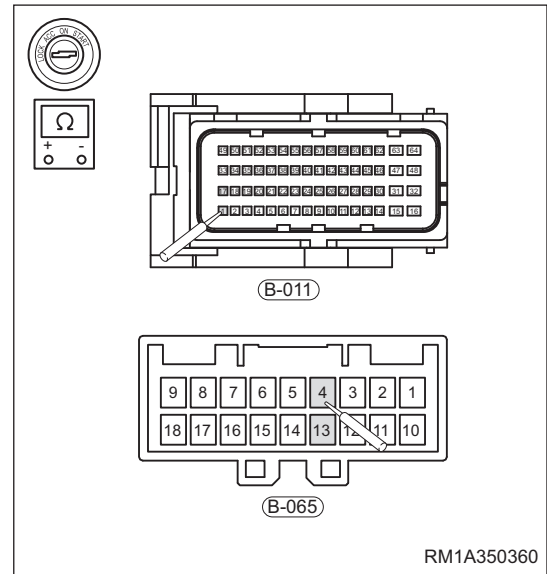
39 - INSTRUMENT CLUSTER

- e. Disconnect body wire harness connectors B-011 and B-065.
- f. Using a digital multimeter, check for continuity between body wire harness connectors B-011 and B-065 according to table below.

Multimeter Connection	Specified Condition
B-011 (1) - B-065 (13)	Continuity
B-011 (17) - B-065 (4)	Continuity

NG

Repair or replace CAN line



OK

5

Reconfirm DTCs

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

39

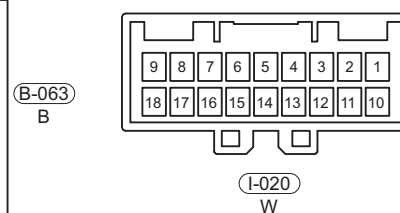
Result	Proceed to
DTC U0100-87 is output	NG
No DTC is output	OK

NG

Replace instrument cluster

OK

System is normal



EM1A380080

Self-diagnosis Detection Logic

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
U0101-87	Lost Communication with TCM	Ignition switch ON	- Transmission Control Unit (TCU) - Instrument cluster - CAN communication

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in instrument cluster control system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 39-12](#)).

 CAUTION

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

39

Diagnosis Procedure

1 Check Transmission Control Unit (TCU)

- Remove Transmission Control Unit (TCU) from malfunctioning vehicle, and install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check the operation of Transmission Control Unit (TCU).

NG

Replace Transmission Control Unit (TCU)

OK

2 Check connector and terminal

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the Transmission Control Unit (TCU) connector B-063.
- Check wire harness, connector and terminal for deformation, bend or damage.

NG

Repair or replace connector and terminal

OK

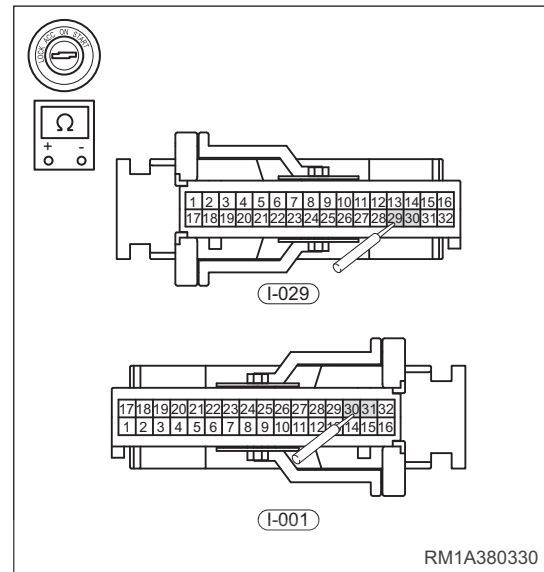
3 Check CAN line (instrument cluster - BCM)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect instrument panel wire harness connectors I-029 and I-001.
- Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-029 and I-001 according to table below.

Multimeter Connection	Specified Condition
I-029 (29) - I-001 (30)	Continuity
I-029 (30) - I-001 (31)	Continuity

NG

Repair or replace CAN line



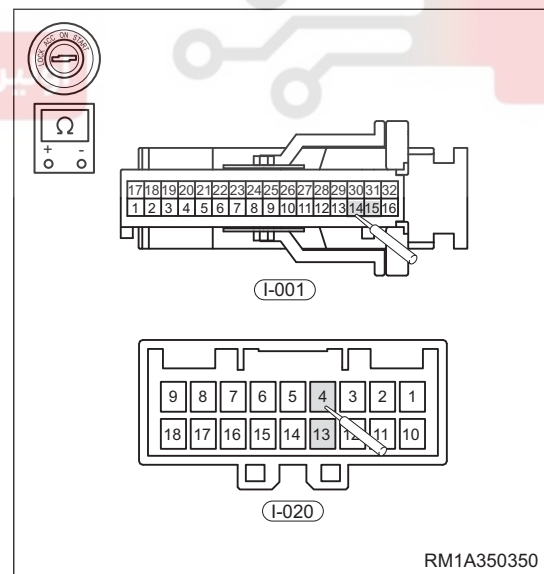
OK

39

4 Check CAN line (BCM - TCU)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connectors I-001 and I-020.
- Using a digital multimeter, check for continuity between body wire harness connectors I-001 and I-020 according to table below.

Multimeter Connection	Specified Condition
I-001 (15) - I-020 (4)	Continuity
I-001 (14) - I-020 (13)	Continuity



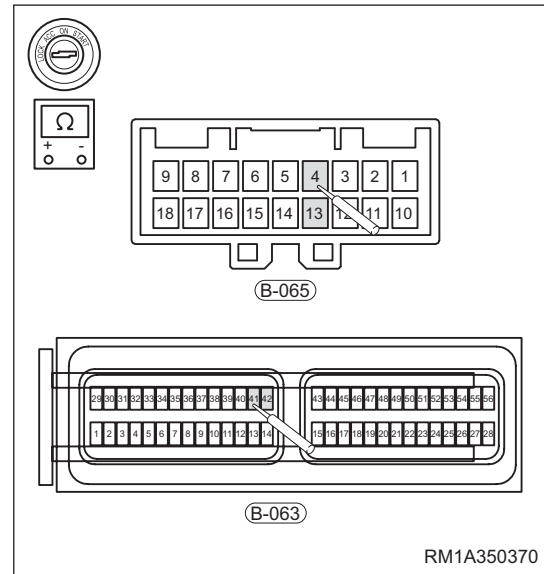
39 - INSTRUMENT CLUSTER

- e. Disconnect body wire harness connectors B-063 and B-065.
- f. Using a digital multimeter, check for continuity between body wire harness connectors B-063 and B-065 according to table below.

Multimeter Connection	Specified Condition
B-063 (41) - B-065 (4)	Continuity
B-063 (42) - B-065 (13)	Continuity

NG

Repair or replace CAN line



OK

5

Reconfirm DTCs

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

39

Result	Proceed to
DTC U0101-87 is output	NG
No DTC is output	OK

NG

Replace instrument cluster

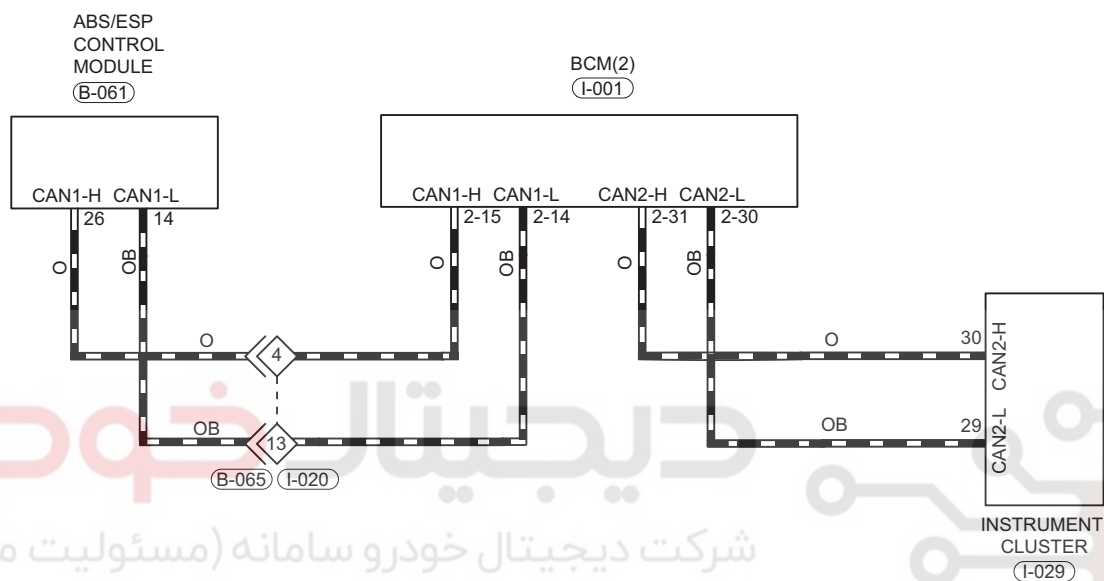
OK

System is normal

DTC

U0129-87

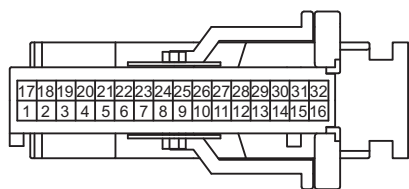
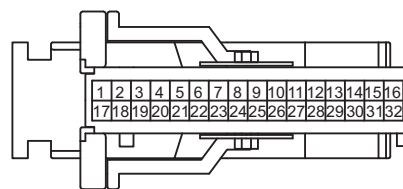
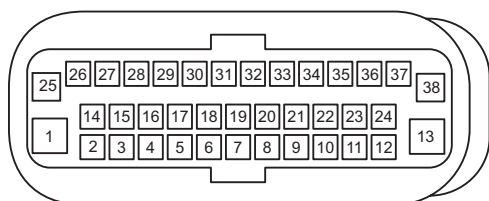
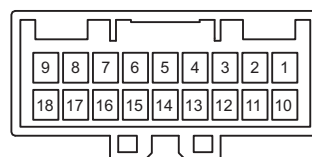
Lost Communication with BSM



39

شرکت دیجیتال خودرو (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

I-001
LI-029
LB-061
BI-020
W

EM1A380100

Self-diagnosis Detection Logic

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
U0129-87	Lost Communication with BSM	Ignition switch ON	- ESP (ABS) control module - Instrument cluster - CAN communication

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in instrument cluster control system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 39-12](#)).

CAUTION

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

39

Diagnosis Procedure**1 Check ESP (ABS) control module**

- Remove ESP (ABS) control module from malfunctioning vehicle, and install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check the operation of ESP (ABS) control module.

NG

Replace ESP (ABS) control module

OK

2 Check connector and terminal

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the ESP (ABS) control module connector B-061.
- Check wire harness, connector and terminal for deformation, bend or damage.

NG

Repair or replace connector and terminal

OK

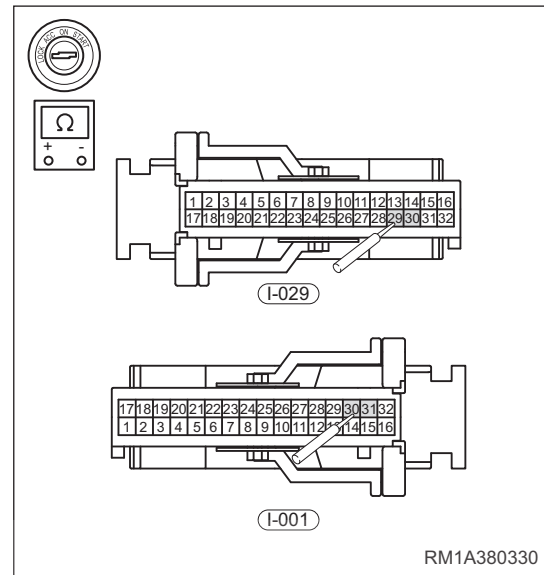
3 Check CAN line (instrument cluster - BCM)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect instrument panel wire harness connectors I-029 and I-001.
- Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-029 and I-001 according to table below.

Multimeter Connection	Specified Condition
I-029 (29) - I-001 (30)	Continuity
I-029 (30) - I-001 (31)	Continuity

NG

Repair or replace CAN line



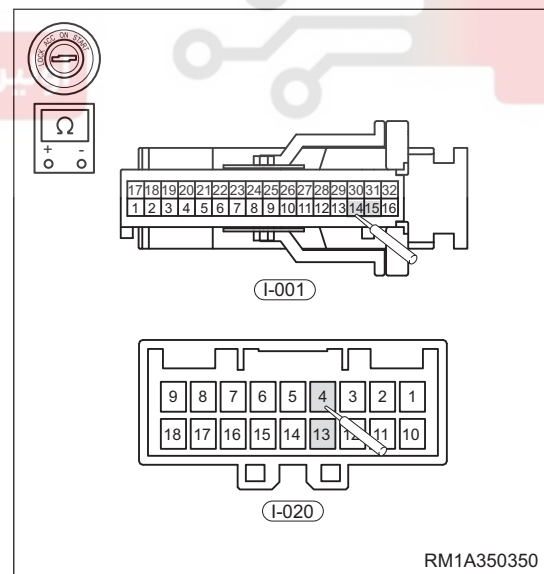
OK

39

4 Check CAN line (BCM - ESP (ABS))

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connectors I-001 and I-020.
- Using a digital multimeter, check for continuity between body wire harness connectors I-001 and I-020 according to table below.

Multimeter Connection	Specified Condition
I-001 (15) - I-020 (4)	Continuity
I-001 (14) - I-020 (13)	Continuity



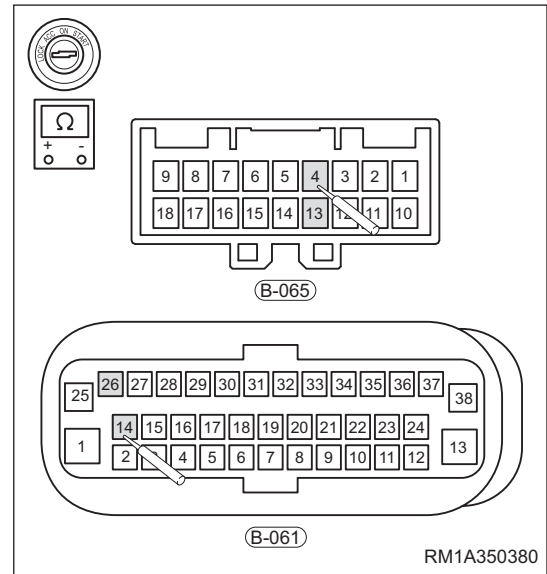
39 - INSTRUMENT CLUSTER

- e. Disconnect body wire harness connectors B-061 and B-065.
- f. Using a digital multimeter, check for continuity between body wire harness connectors B-061 and B-065 according to table below.

Multimeter Connection	Specified Condition
B-061 (26) - B-065 (4)	Continuity
B-061 (14) - B-065 (13)	Continuity

NG

Repair or replace CAN line



OK

5

Reconfirm DTCs

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

39

Result	Proceed to
DTC U0129-87 is output	NG
No DTC is output	OK

NG

Replace instrument cluster

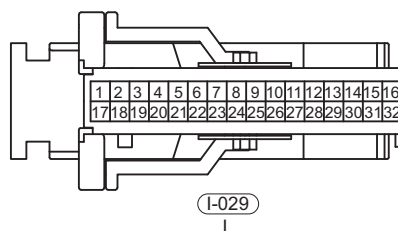
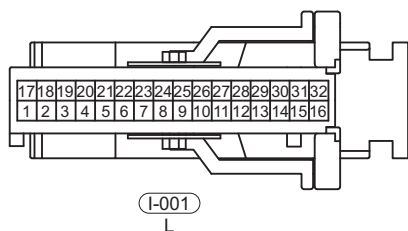
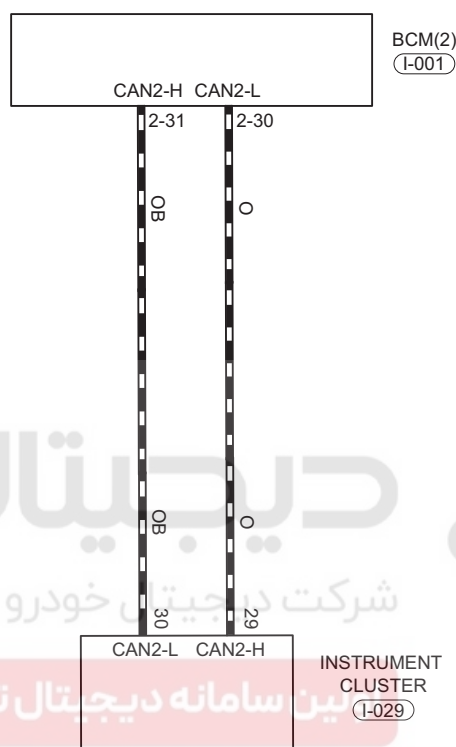
OK

System is normal

DTC

U0140-87

Lost Communication with BCM



EM1A380120

Self-diagnosis Detection Logic

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
U0140-87	Lost Communication with BCM	Ignition switch ON	- Body Control Module (BCM) - CAN communicationInstrument cluster

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in instrument cluster control system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 39-12](#)).

CAUTION

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

39

Diagnosis Procedure**1 Check Body Control Module (BCM)**

- Remove Body Control Module (BCM) from malfunctioning vehicle, and install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check the operation of Body Control Module (BCM).

NG

Replace Body Control Module (BCM)

OK

2 Check connector and terminal

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the Body Control Module (BCM) connector I-001.
- Check wire harness, connector and terminal for deformation, bend or damage.

NG

Repair or replace connector and terminal

OK

3

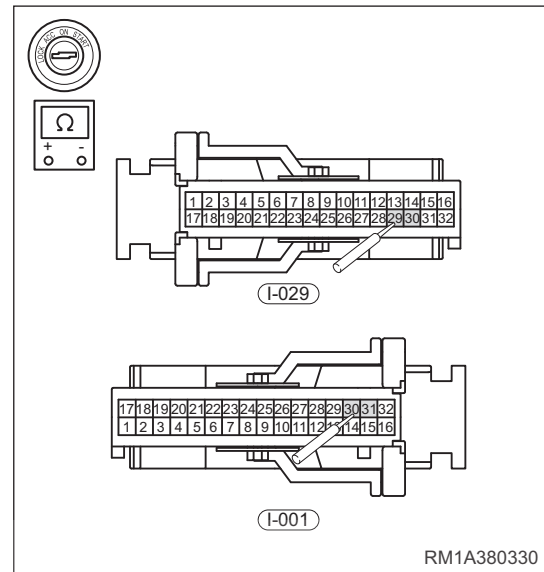
Check CAN line (instrument cluster - BCM)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect instrument panel wire harness connectors I-029 and I-001.
- Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-029 and I-001 according to table below.

Multimeter Connection	Specified Condition
I-029 (29) - I-001 (30)	Continuity
I-029 (30) - I-001 (31)	Continuity

NG

Repair or replace CAN line



RM1A380330

OK

39

4

Reconfirm DTCs

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

Result	Proceed to
DTC U0140-87 is output	NG
No DTC is output	OK

NG

Replace instrument cluster

OK

System is normal

ON-VEHICLE SERVICE

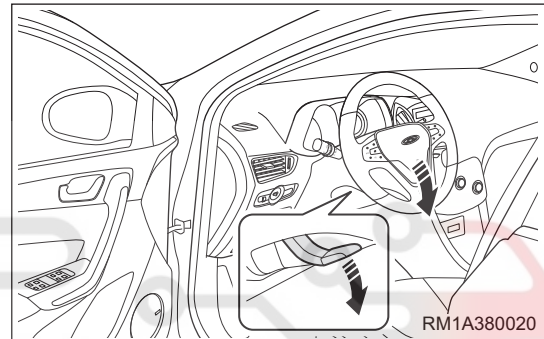
Instrument Cluster

Removal

CAUTION

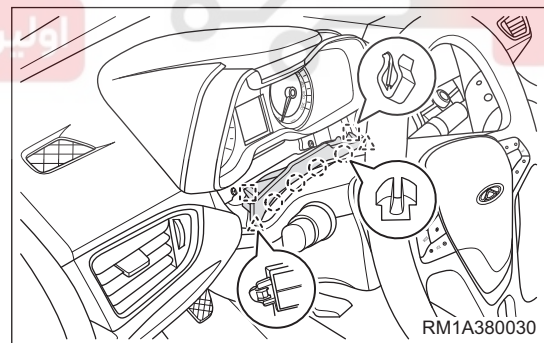
- Be sure to wear necessary safety equipment to prevent accidents, when removing instrument cluster.
- Operate carefully to prevent components from being damaged, when removing instrument cluster.
- Be careful not to damage interior and body paint when removing instrument cluster.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Lower steering wheel and steering column to the limit positions in direction of arrow as shown in illustration.

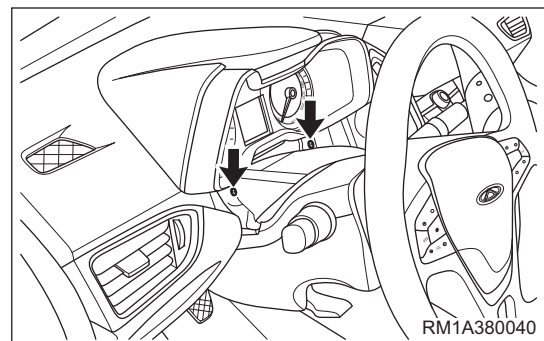


39

4. Remove the instrument cluster cover assembly.
 - a. Using a screwdriver wrapped with protective tape, pry up clips on instrument cluster cover assembly and remove instrument cluster cover assembly.

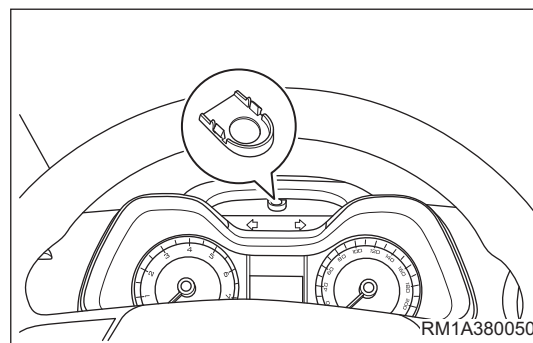


5. Remove the instrument cluster.
 - a. Remove 2 fixing screws (arrow) from lower part of instrument cluster.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)

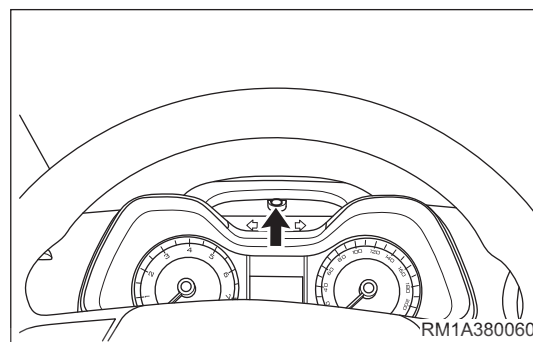


39 - INSTRUMENT CLUSTER

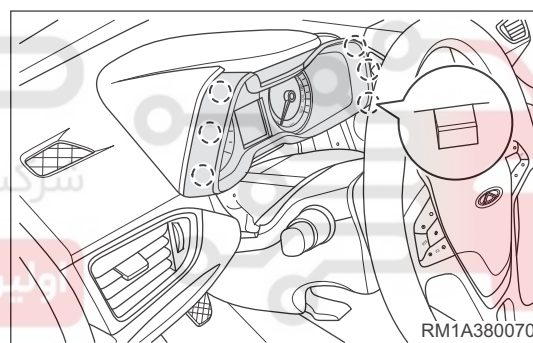
- b. Using a screwdriver wrapped with protective tape, pry up fixing screw cover on upper part of instrument cluster.



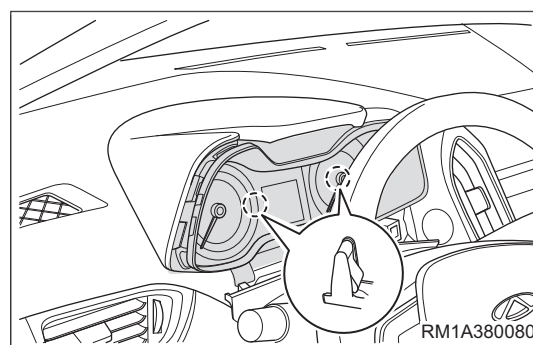
- c. Remove fixing screw (arrow) from upper part of instrument cluster.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)



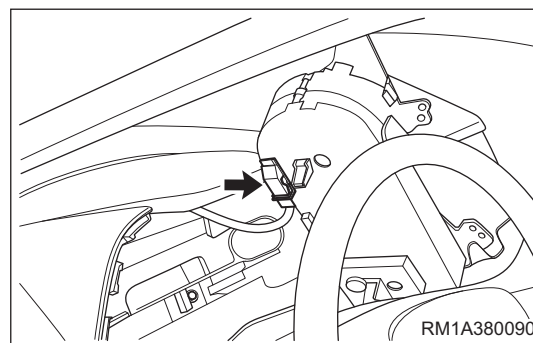
- d. Using a screwdriver wrapped with protective tape, pry up clips on instrument cluster front cover and remove instrument cluster front cover.



- e. Using a screwdriver wrapped with protective tape, pry up clips on instrument cluster.



- f. Disconnect instrument cluster connector (arrow), and remove instrument cluster.



Installation

Installation is in the reverse order of removal.

CAUTION

- When installing instrument cluster, be sure to align instrument cluster positioning hole with instrument panel dowel pin, and clamp clips in place.
- When installing instrument cluster, be sure to install connector in place.
- When installing instrument cluster, be sure to tighten fixing screws in place.
- When installing instrument cluster, operate carefully to prevent other components from being damaged.

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



AUDIO/VISUAL SYSTEM

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No Disc CD Control Panel	40-28	Removal	40-40
Removal	40-28	Inspection	40-41
Inspection	40-31	Installation	40-42
Installation	40-31		

دیجیتال خودرو

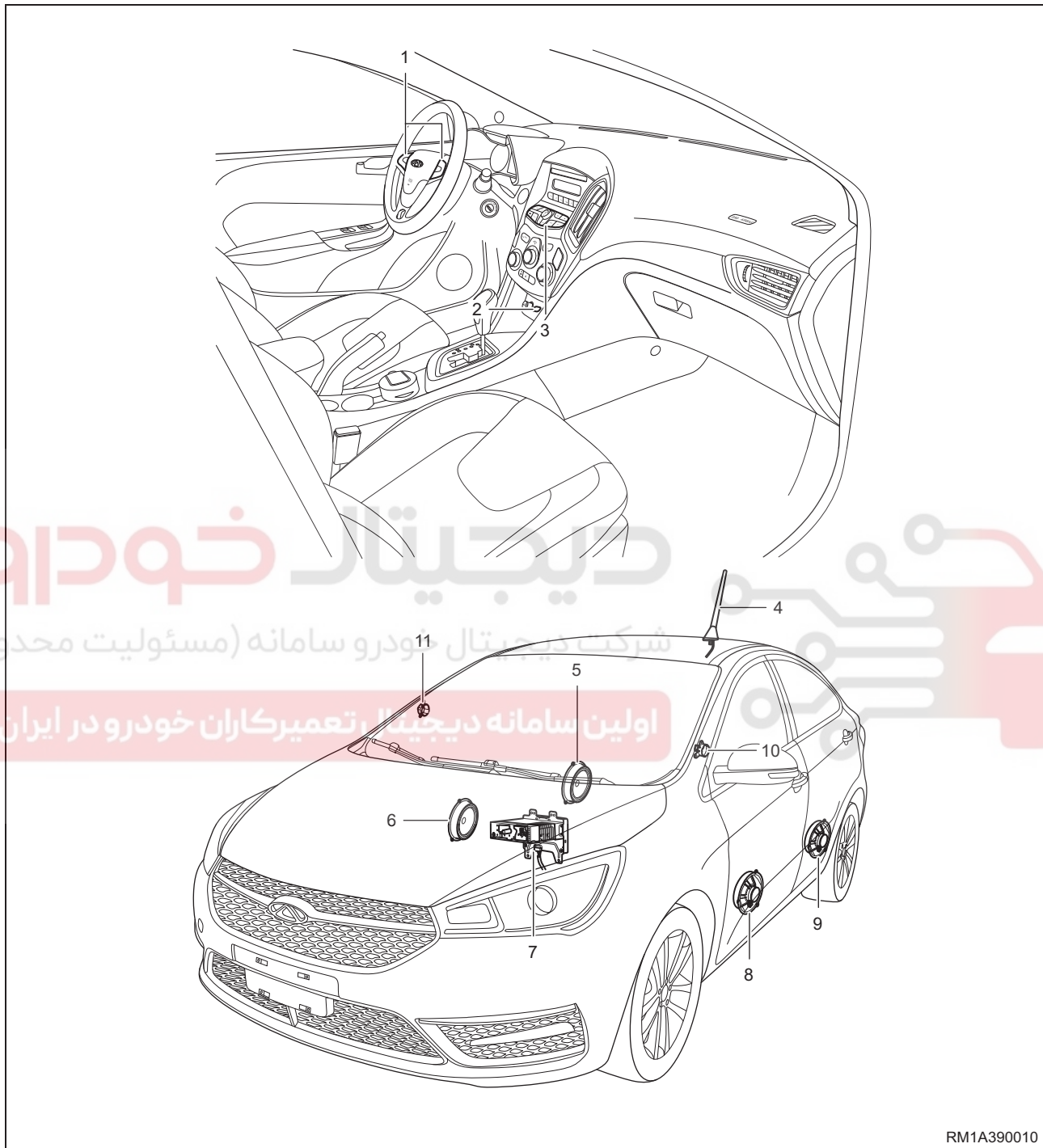
40 شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



GENERAL INFORMATION

Description



40 - AUDIO/VISUAL SYSTEM

1 - Steering Wheel Quick Button (if equipped)	2 - Multi-function Interface
3 - No Disc CD Control Panel	4 - Antenna Assembly (w/Antenna Amplifier)
5 - Rear Right Woofer Assembly	6 - Front Right Woofer Assembly
7 - No Disc CD Head Unit	8 - Front Left Woofer Assembly
9 - Rear Left Woofer Assembly	10 - Left Tweeter Assembly
11 - Right Tweeter Assembly	

Audio/visual system mainly consists of No Disc CD, speakers and antenna.

No Disc CD system mainly consists of No Disc CD head unit, No Disc CD control panel and multi-function interface.

Speaker system consists of 6 speakers, which includes 2 tweeter assemblies (if equipped) and 4 woofer assemblies.

Antenna system mainly refers to antenna assembly (w/antenna amplifier).

Specifications

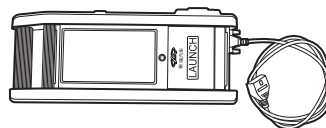
Torque Specifications

Description	Torque (N·m)
Center Control Integration Panel Assembly Fixing Screw	1.5 ± 0.5
No Disc CD Trim Cover Assembly Fixing Screw	1.5 ± 0.5
No Disc CD Fixing Screw	1.5 ± 0.5
No Disc CD Control Panel Fixing Screw	1.5 ± 0.5
Tweeter Assembly Fixing Screw (if equipped)	2.0 ± 0.5
Front Left Woofer Assembly Fixing Screw	2.0 ± 0.5
Rear Left Woofer Assembly Fixing Screw	2.0 ± 0.5
Antenna Assembly (w/Antenna Amplifier) Fixing Bolt	5 ± 1
Ground Wire Harness Fixing Screw	0.7 ± 0.2
Steering Wheel Quick Button Trim Cover Fixing Screw	0.7 ± 0.2

Tools

Special Tool

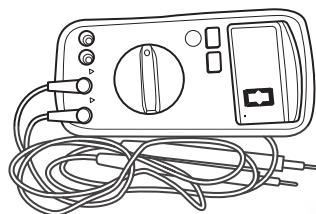
X-431 3G Diagnostic Tester



RCH0000001

General Tool

Digital Multimeter



RCH0000002

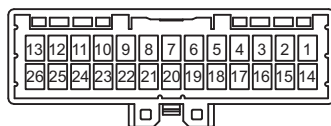
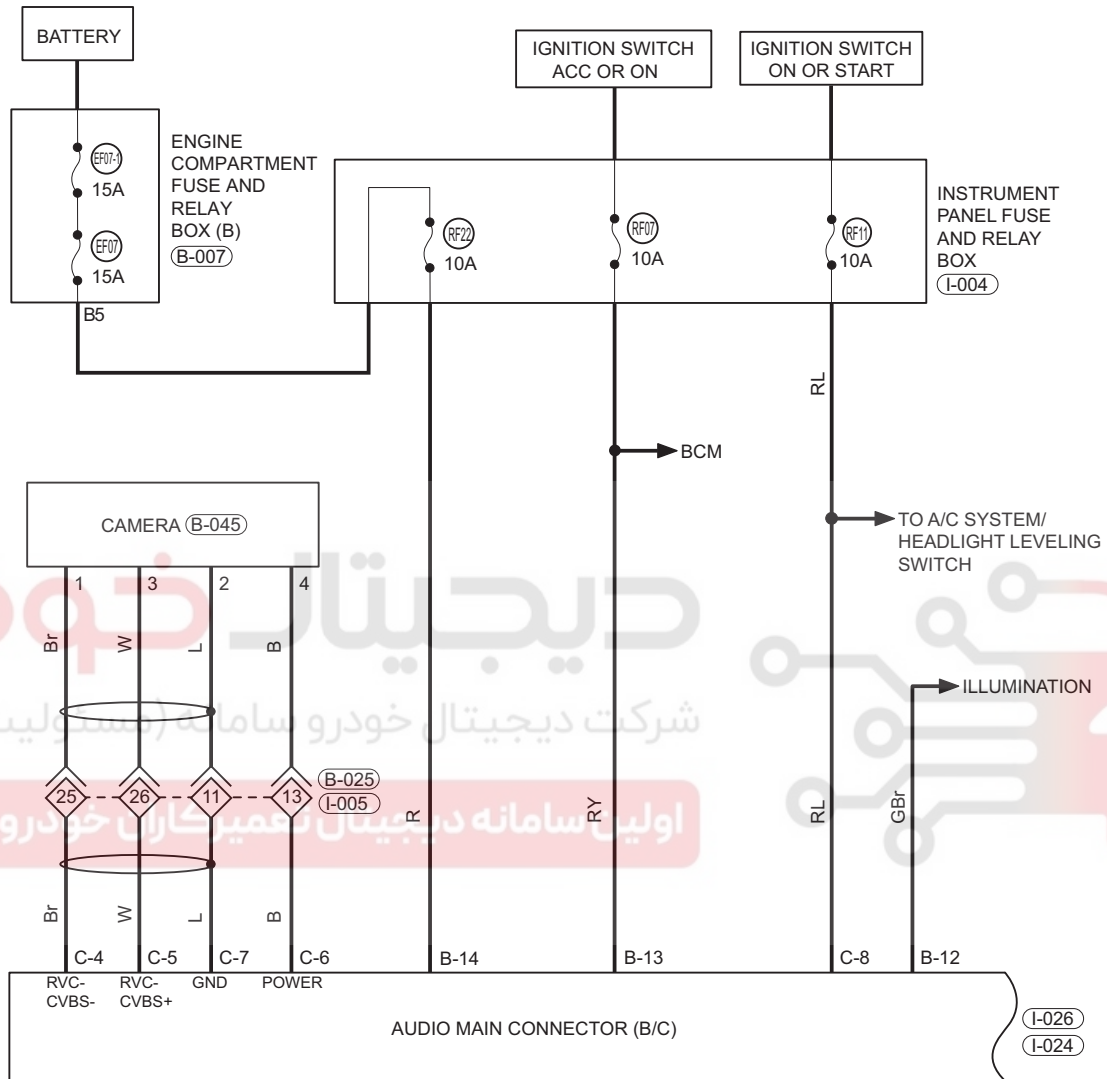
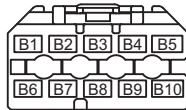
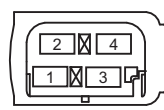
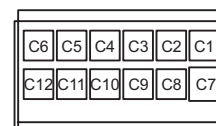
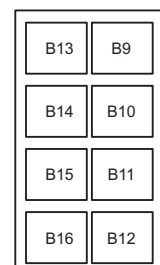
دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

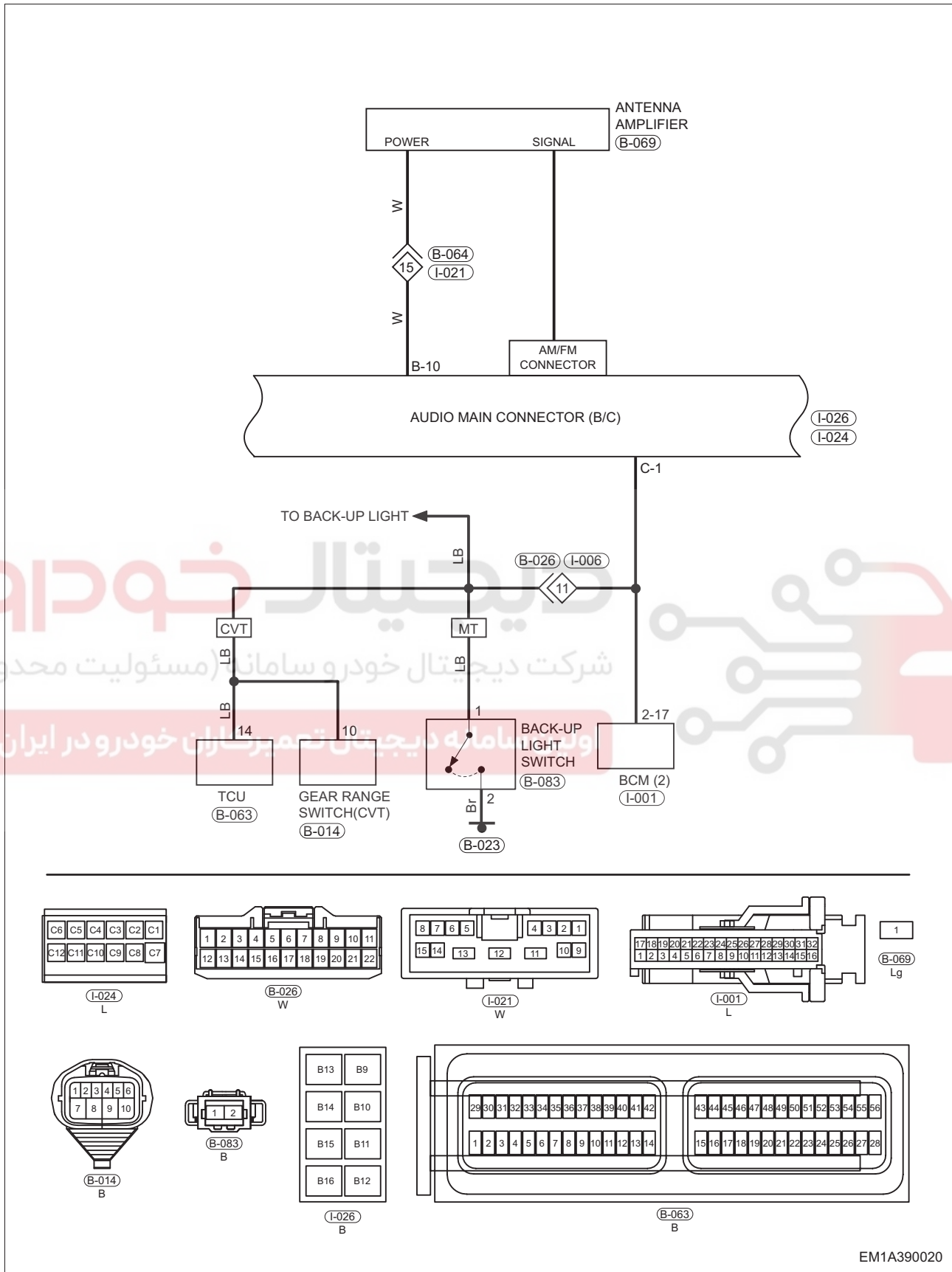
Circuit Diagram

Audio/Visual System (Page 1 of 5)

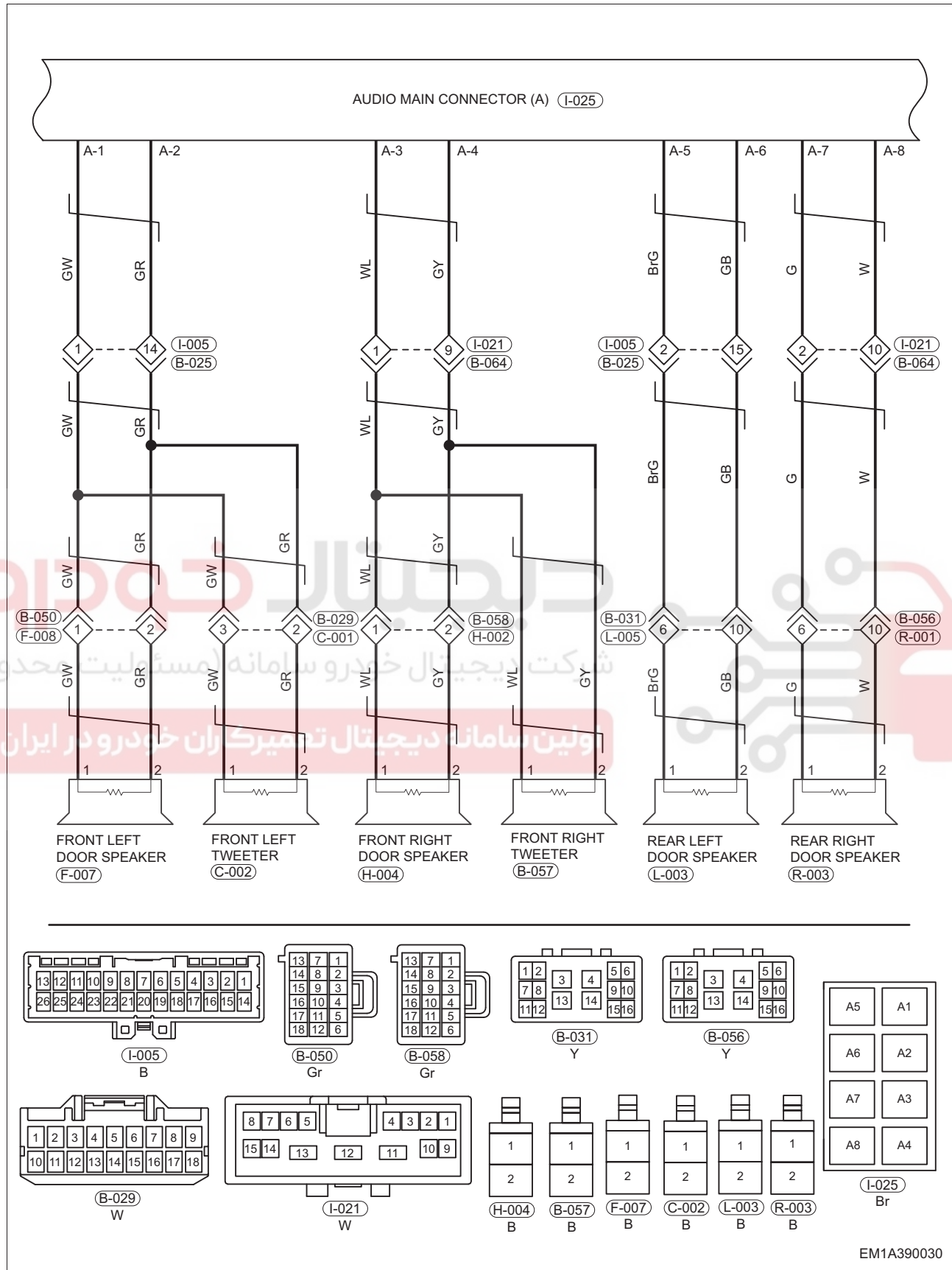
I-005
BB-007
YB-045
BI-024
LI-026
B

EM1A390010

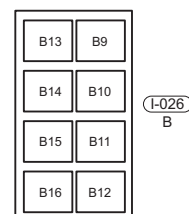
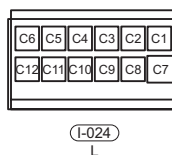
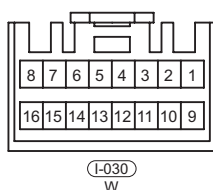
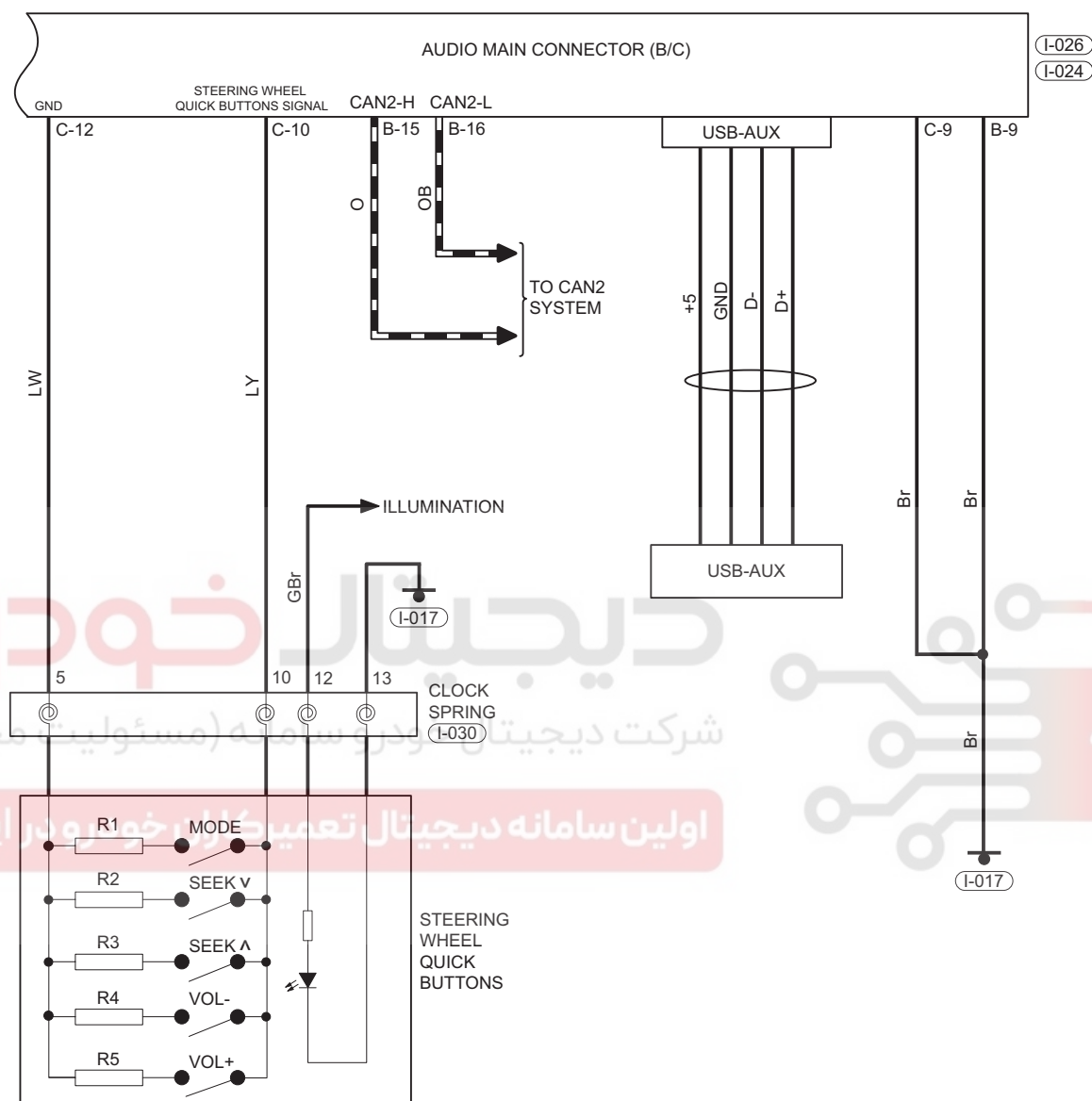
Audio/Visual System (Page 2 of 5)



Audio/Visual System (Page 3 of 5)



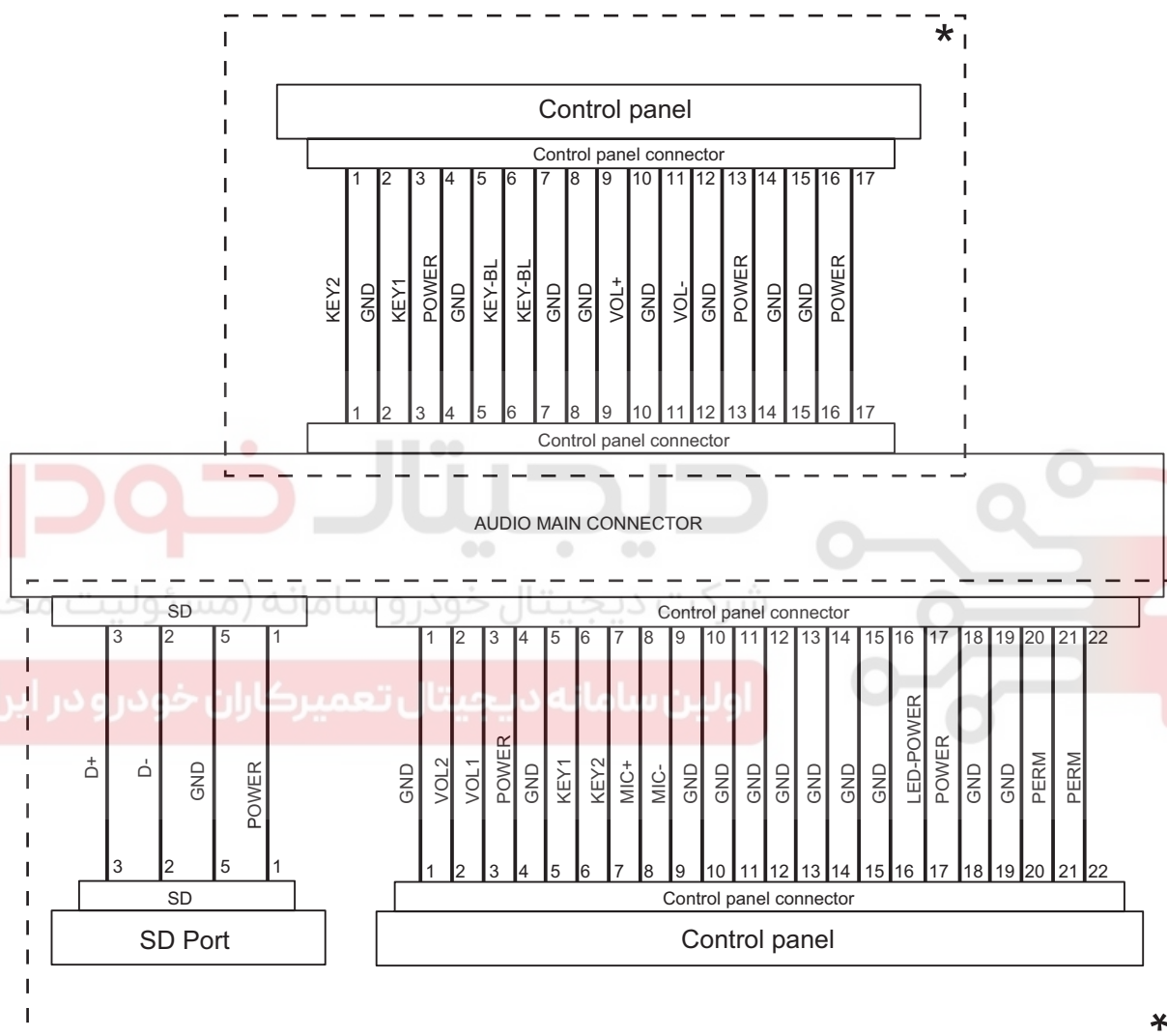
Audio/Visual System (Page 4 of 5)



EM1A390040

Audio/Visual System (Page 5 of 5)

*: If Equipped



EM1A390050

DIAGNOSIS & TESTING

Problem Symptoms Table

HINT:

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

Symptom	Suspected Area	See page
Noise occurs	Noise source (interference)	-
	Tweeter assembly (loose installation or damaged) (if equipped)	40-34
	Woofer assembly (loose installation or damaged)	40-35
No Disc CD assembly does not operate	No Disc CD control panel (malfunction)	40-28
	No Disc CD fuse (blown)	40-32
	No Disc CD (malfunction)	40-32
	Wire harness and connector (malfunction)	-
No sound can be heard from speakers	System setting (incorrect)	-
	Tweeter assembly (malfunction) (if equipped)	40-34
	Woofer assembly (malfunction)	40-35
	No Disc CD control panel (malfunction)	40-28
	Wire harness and connector (malfunction)	-
Radio broadcast signal cannot be received (poor reception)	No Disc CD control panel (malfunction)	40-28
	No Disc CD (malfunction)	40-32
	Optional equipment (interference)	-
	Antenna assembly (malfunction)	40-37
	Wire harness and connector (malfunction)	-

HINT:

When checking general malfunctions of audio/visual system, perform inspection at spacious area nearby free of obstacles.

Diagnosis Tools

X-431 3G Diagnostic Tester

When connecting X-431 3G diagnostic tester:

- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC) for communication with vehicle.
- DLC is located at driver side instrument panel crossmember.
- DLC uses a trapezoidal design which can hold 16 terminals.

Digital Multimeter

When using digital multimeter:

- Troubleshoot electrical malfunctions and wire harness system.
- Look for basic fault.
- Measure voltage, current and resistance.

Diagnostic Help

1. Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
2. Confirm that malfunction is current, and carry out diagnostic test and repair procedures.
3. If DTC cannot be deleted, the malfunction is current.
4. Only use a digital multimeter to measure voltage of electronic system.
5. Refer to any Technical Bulletin that may apply to the malfunction.
6. Visually check related wire harness and connector.
7. Check and clean all CD system grounds related to the latest DTC.
8. If multiple trouble codes were set, use circuit diagrams and look for any common ground circuit or power supply circuit applied to the DTC.

40

Intermittent DTC Troubleshooting

If malfunction is intermittent, perform the followings:

- Check if connectors are loose.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Wiggle related wire harnesses and connectors and observe if signal is interrupted in related circuit.
- If possible, try to duplicate the conditions under which DTC was set.
- Look for data that has changed or the DTC to reset during wiggle test.
- Look for broken, bent, protruded or corroded terminals.
- Inspect mounting areas of audio/visual system, wire harness or wire harness connector and so on for damage, foreign matter, etc. that will cause incorrect signals.
- Check and clean all wire harness connectors and grounding parts related to current DTC.
- Remove No Disc CD from malfunctioning vehicle and install it to a new vehicle and perform a test. If DTC cannot be cleared, No Disc CD is malfunctioning. If DTC can be cleared, reinstall No Disc CD to original vehicle.
- If multiple trouble codes were set, refer to circuit diagrams to look for any common ground circuit or power supply circuit applied to the DTC.
- Refer to any Technical Bulletin that may apply to the malfunction.

Ground Inspection

Groundings are very important to entire circuit system, which are normal or not can seriously affect the entire circuit system. Ground points are often exposed to moisture, dirt and other corrosive environments. Corrosion (rust) and oxidation may increase load resistance. This situation will seriously affect normal operation of circuit. Check the ground points as follows:

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

Diagnosis Procedure

HINT:

Use following procedures to troubleshoot the audio/visual system.

1	Vehicle brought to workshop
---	-----------------------------

NEXT

2	Check battery voltage
---	-----------------------

Standard voltage: 11 to 14 V

If voltage is below 11 V, recharge or replace 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	Problem repair (no DTC), then 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 been repaired

NEXT

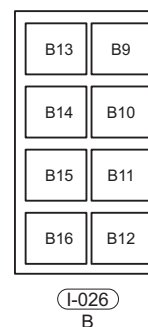
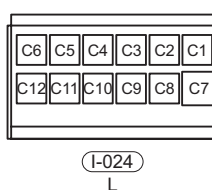
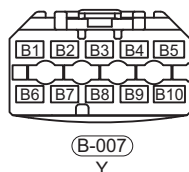
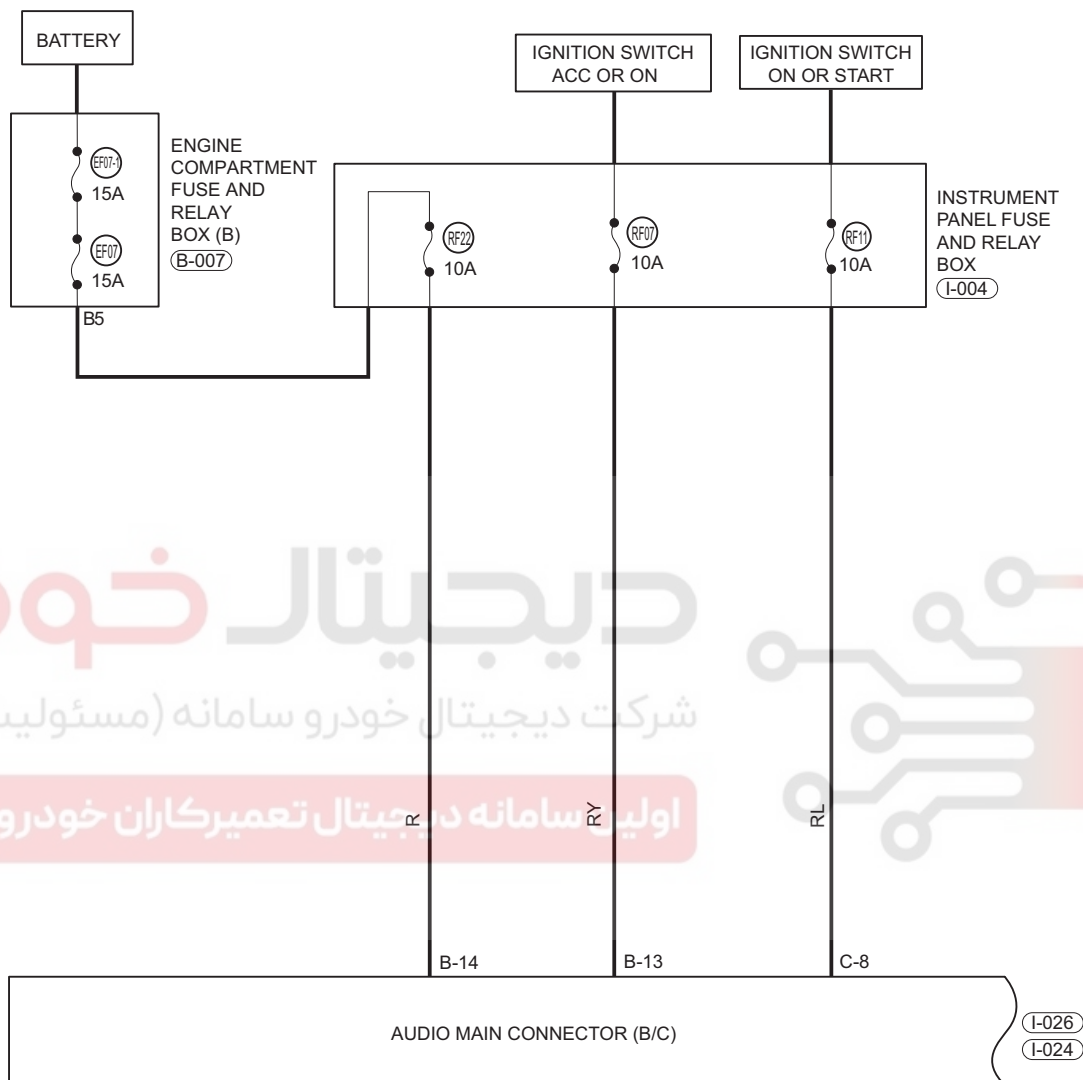
10 End

40 Diagnostic Trouble Code (DTC) Chart

DTC Code	DTC Definition
B1800-16	Power Supply
B1800-17	Power Supply
B1802-00	Front Switch Error
B1803-00	Steering Switch Error
B1805-05	EEPROM Failure
B1809-00	Speed Signal Abnormal
U0140-87	Lost Communication with BCM
U0155-87	Lost Communication with ICM
U0129-87	Lost Communication with BSM
U0126-87	Lost Communication with SAM
U0001-00	High Speed CAN Communication Bus

DTC	B1800-16	Power Supply
-----	----------	--------------

DTC	B1800-17	Power Supply
-----	----------	--------------



EM1A390070

40 - AUDIO/VISUAL SYSTEM

Self-diagnosis Detection Logic

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B1800-16	Power Supply	Ignition switch ON	- Charging system - Fuse - Ignition switch assembly - Wire harness or connector
B1800-17	Power Supply		

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in DVD system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 40-12](#)).

CAUTION

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

40

Diagnosis Procedure

1 Check battery

- a. Check if battery voltage is normal.

NG

Recharge or replace battery

OK

2 Check battery terminals

- a. Check if battery terminals are loose or corroded.

NG

Tighten or replace battery terminals

OK

3**Check fuse**

- Unplug fuses EF07-1 (15A) and EF07 (15A) from engine compartment fuse and relay box.
- Check resistance of fuses EF07 and EF07-1.
- Unplug fuses RF22 (10 A), RF07 (10 A) and RF11 (10 A) from instrument panel fuse box.
- Check resistance of fuses RF22 (10 A), RF07 (10 A) and RF11 (10 A).

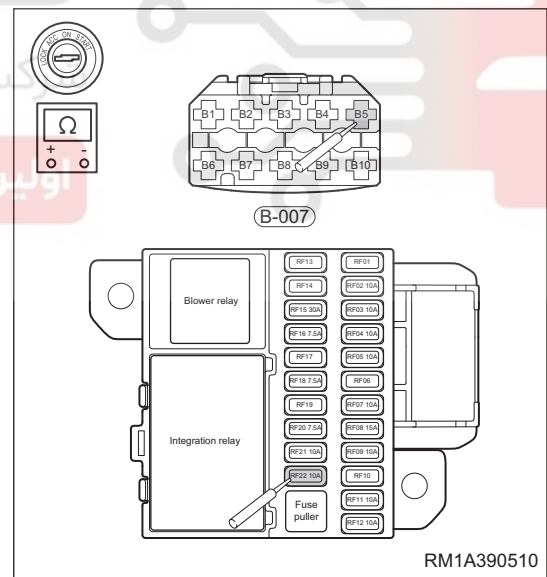
Standard resistance: less than 1 Ω **NG****Replace fuse****OK****4****Check ignition switch assembly**

- Check the ignition switch assembly (See page 15-13).

NG**Replace ignition switch assembly****OK****5****Check body wire harness**

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the body wire harness connector B-007.
- Using a digital multimeter, check for continuity between body wire harness connector B-007 and fuse RF22 on instrument panel fuse box according to table below.

Multimeter Connection	Condition	Specified Condition
B-007 (B5) - RF22	Always	Continuity

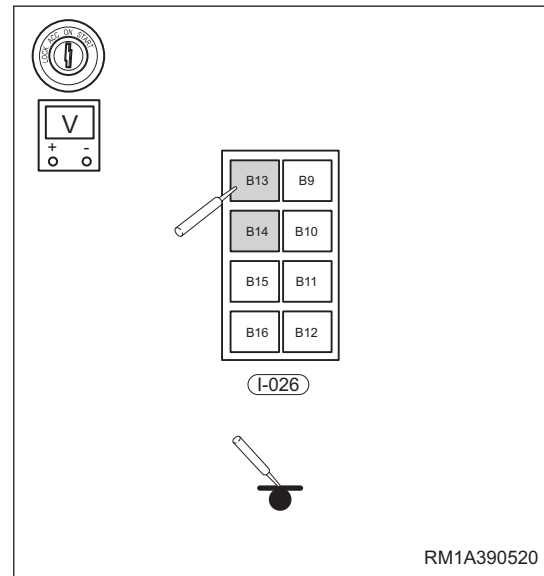
NG**Repair or replace body wire harness****OK**

6

Check instrument panel wire harness

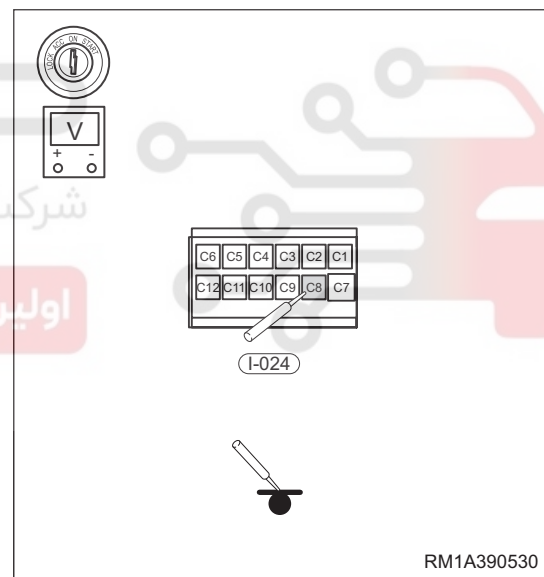
- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the instrument panel wire harness connector I-026.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between instrument panel wire harness connector I-026 and body ground according to value(s) in table below.

Multimeter Connection	Condition	Specified Condition
I-026 (B-13) - Body ground	Always	11 to 14 V
I-026 (B-14) - Body ground	Always	11 to 14 V



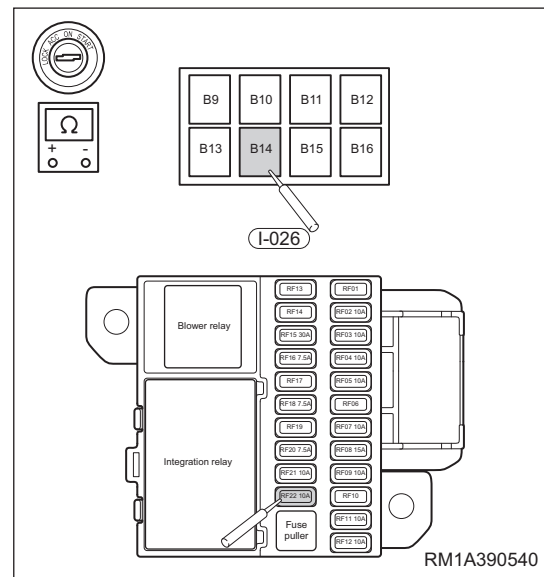
- Connect all connectors.
- Disconnect the instrument panel wire harness connector I-024.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between instrument panel wire harness connector I-024 and body ground according to value(s) in table below.

Multimeter Connection	Condition	Specified Condition
I-024 (C-8) - Body ground	Always	11 to 14 V



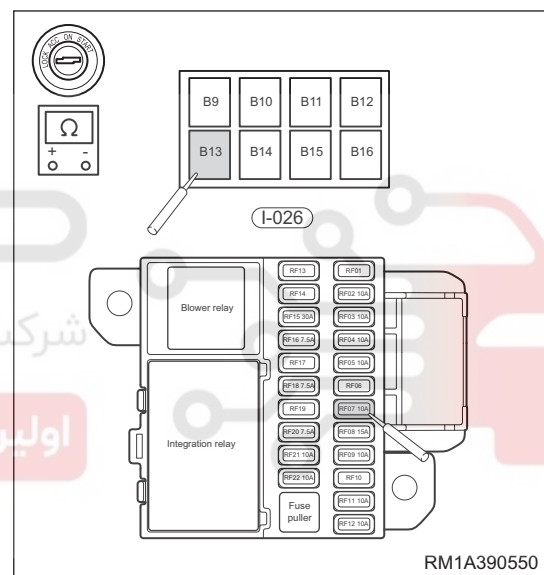
- l. Disconnect the instrument panel wire harness connector I-026.
- m. Using a digital multimeter, check for continuity between instrument panel fuse and relay box I-004 and instrument panel wire harness connector I-026 according to table below.

Multimeter Connection	Specified Condition
I-004 (RF22) - I-026 (B-14)	Continuity



- n. Disconnect the instrument panel wire harness connector I-026.
- o. Using a digital multimeter, check for continuity between instrument panel fuse and relay box I-004 and instrument panel wire harness connector I-026 according to table below.

Multimeter Connection	Specified Condition
I-004 (RF07) - I-026 (B-13)	Continuity

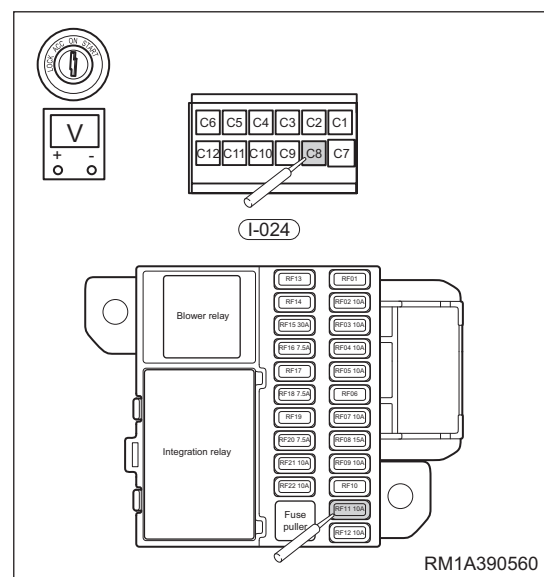


- p. Disconnect the instrument panel wire harness connector I-024.
- q. Using a digital multimeter, check for continuity between instrument panel fuse and relay box I-004 and instrument panel connector I-024 according to table below.

Multimeter Connection	Specified Condition
I-004 (RF11) - I-024 (C-8)	Continuity

NG

Repair or replace instrument panel wire harness and connector



OK

7 Reconfirm DTCs

- a. Connect all connectors.
- b. Connect the negative battery cable.
- c. Turn ignition switch to ON.
- d. Use X-431 3G diagnostic tester (the latest software) to record and clear DTCs stored in No Disc CD control system.
- e. Turn ignition switch to LOCK and wait for a few seconds.
- f. Turn ignition switch to ON.
- g. Use X-431 3G diagnostic tester (the latest software) to read DTCs stored in No Disc CD control system again.

NG

Replace No Disc CD control module

OK

System is normal



DTC	B1802-00	Front Switch Error
------------	-----------------	---------------------------

Self-diagnosis Detection Logic

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B1802-00	Front Switch Error	Ignition switch ON	No Disc CD control panel

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in CD system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 40-12](#)).

Diagnosis Procedure

1	Check No Disc CD control panel operation
----------	---

- Remove No Disc CD control panel from malfunctioning vehicle, and install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation condition of No Disc CD control panel.

NG

Replace No Disc CD control panel

OK

2	Reconfirm DTCs
----------	-----------------------

- Connect all connectors.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester (the latest software) to record and clear DTCs stored in No Disc CD control system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester (the latest software) to read DTCs stored in No Disc CD control system again.

NG

Replace No Disc CD control module

40 - AUDIO/VISUAL SYSTEM

OK

System is normal

دیجیتال خودرو

40 شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



DTC	B1803-00	Steering Switch Error
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Self-diagnosis Detection Logic

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B1803-00	Steering Switch Error	Ignition switch ON	Steering wheel quick button

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in DVD system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 40-12](#)).

Diagnosis Procedure

1	Check steering wheel quick button
----------	--

- Turn ignition switch to LOCK.
- Remove the driver airbag assembly ([See page 31-89](#)).
- Check the steering wheel quick button ([See page 40-40](#)).

NG

Replace steering wheel quick button

OK

2	Reconfirm DTCs
----------	-----------------------

- Connect all connectors.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester (the latest software) to record and clear DTCs stored in No Disc CD control system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester (the latest software) to read DTCs stored in No Disc CD control system again.

NG

Replace No Disc CD control module

40 - AUDIO/VISUAL SYSTEM

OK

System is normal

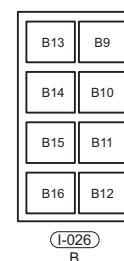
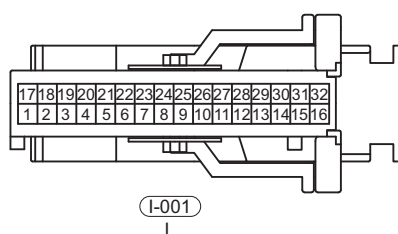
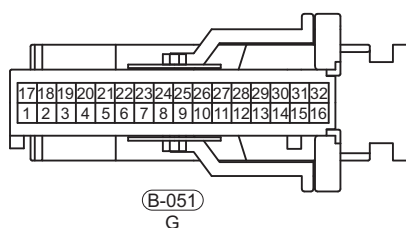
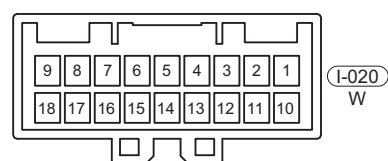
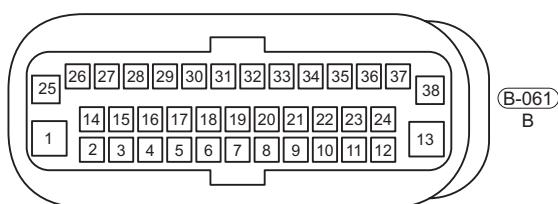
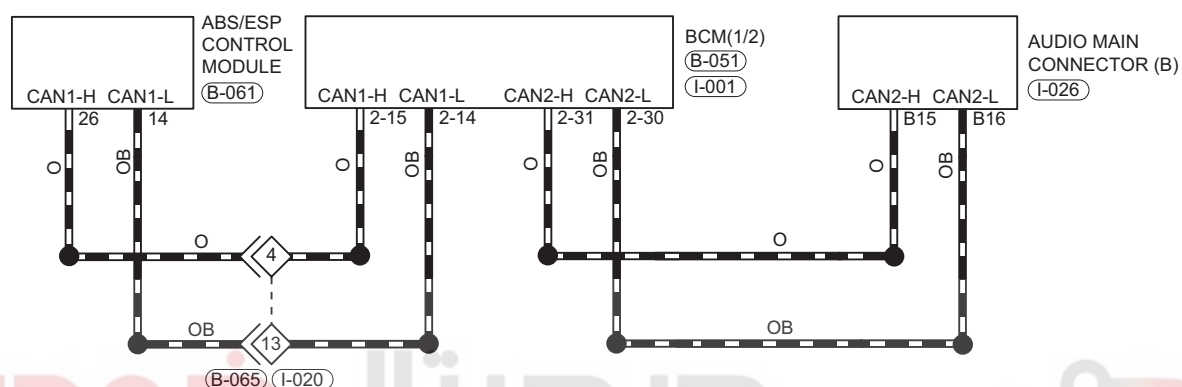
دیجیتال خودرو

40 شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



DTC	B1809-00	Speed Signal Abnormal
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EM1A390080

40 - AUDIO/VISUAL SYSTEM

Self-diagnosis Detection Logic

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B1809-00	Speed Signal Abnormal	Ignition switch ON	- Vehicle speed sensor - CAN line

DTC Confirmation Procedure

Confirm that battery voltage is between 11 and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in DVD system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 40-12](#)).

 CAUTION

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

40 Diagnosis Procedure

1 Check vehicle speed sensor

- a. Check the vehicle speed sensor.

NG

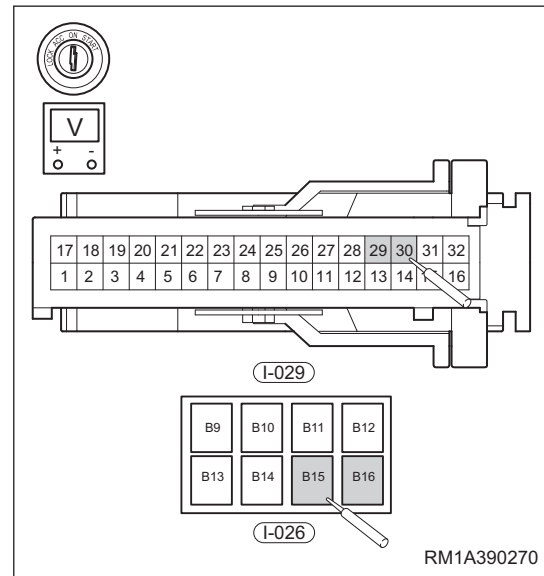
Replace vehicle speed sensor

OK

2 Check CAN line (No Disc CD control module - BCM)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect instrument panel wire harness connectors I-029 and I-026.
- Using a digital multimeter, check for continuity between instrument panel wire harness connectors I-029 and I-026 according to table below.

Multimeter Connection	Specified Condition
I-029 (30) - I-026 (B-15)	Continuity
I-029 (29) - I-026 (B-16)	Continuity

NG**Repair or replace CAN line****OK****3 Check CAN line (BCM - ESP (ABS)) (See page 25-77)****NG****Repair or replace CAN line****40****OK****4 Reconfirm DTCs**

- Connect all connectors.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester (the latest software) to record and clear DTCs stored in No Disc CD control system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester (the latest software) to read DTCs stored in No Disc CD control system again.

NG**Replace No Disc CD control module****OK****System is normal**

ON-VEHICLE SERVICE

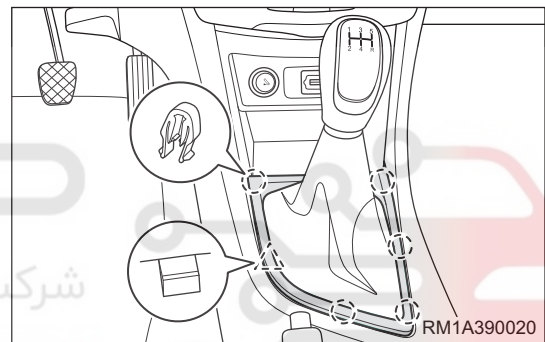
No Disc CD Control Panel

Removal

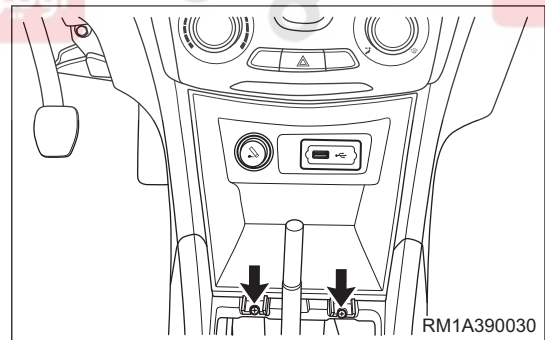
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing No Disc CD control panel.
- Appropriate force should be applied when removing No Disc CD control panel. Be careful not to operate roughly.
- DO NOT scratch interior when removing No Disc CD control panel.

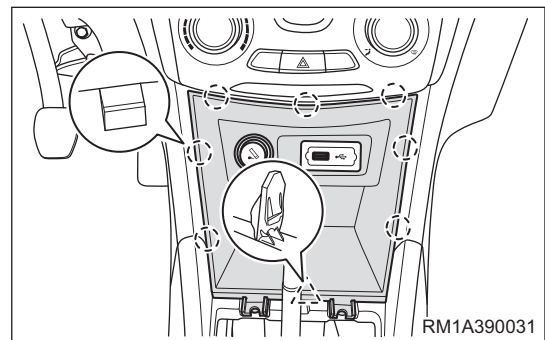
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the lower center storage box assembly.
 - a. Using a screwdriver wrapped with protective tape, pry up shift lever dust boot assembly.



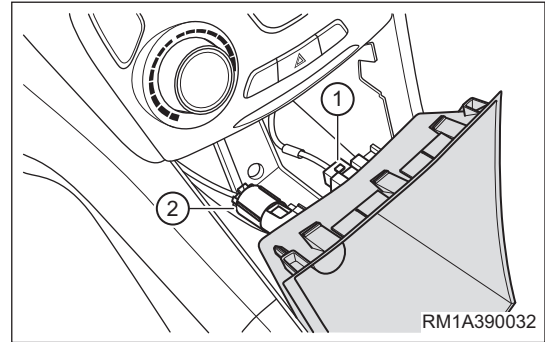
- b. Remove 2 fixing screws from lower center storage box.



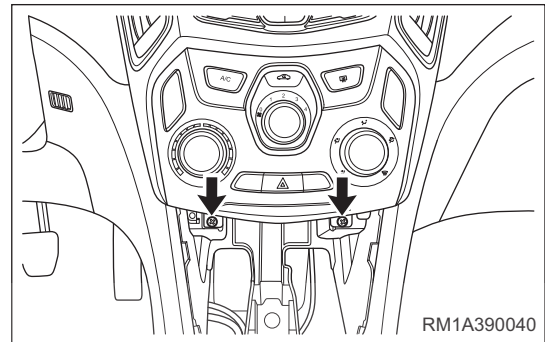
- c. Using a screwdriver wrapped with protective tape, pry up clips on lower center storage box assembly.



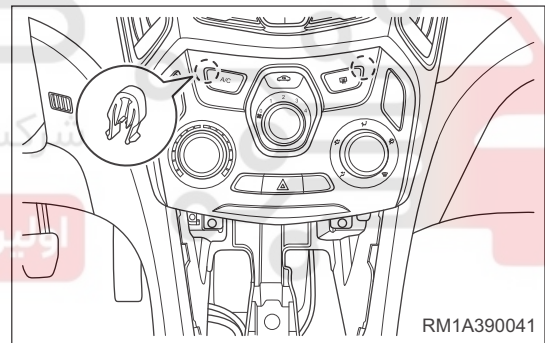
- d. Disconnect USB connector (1) and cigarette lighter connector (2), and remove lower center storage box assembly.



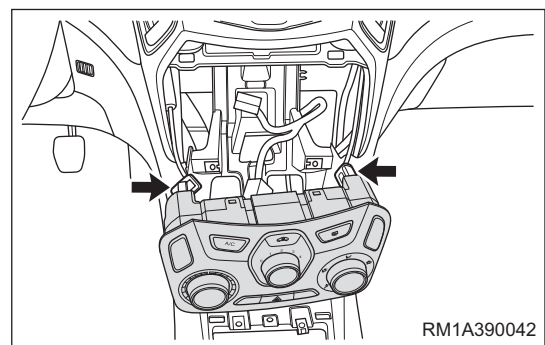
4. Remove the center control integration panel assembly.
a. Remove 2 fixing screws (arrow) from center control integration panel assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)



- b. Using a screwdriver wrapped with protective tape, pry up clips on center control integration panel assembly.

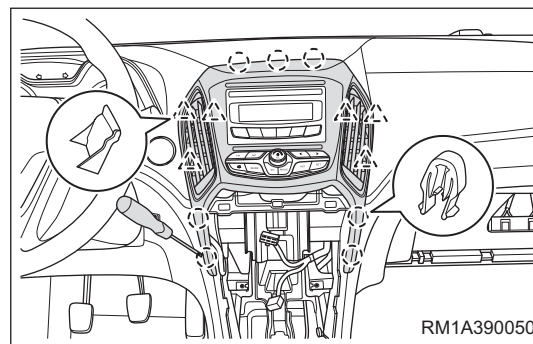


- c. Remove cable between inner/outer circulation and mix damper servo end, disconnect connectors (arrow) from center control integration panel, and remove center control integration panel assembly.

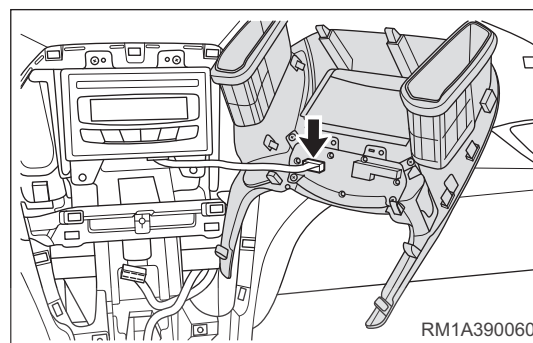


40 - AUDIO/VISUAL SYSTEM

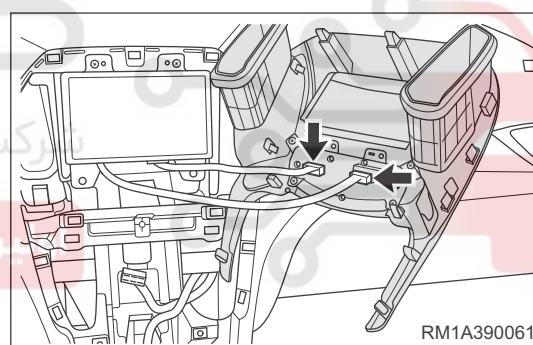
5. Remove the control panel assembly.
 - a. Using a screwdriver wrapped with protective tape, pry up control panel assembly.



- b. Disconnect connector (arrow) from No Disc CD control panel, and remove control panel assembly.

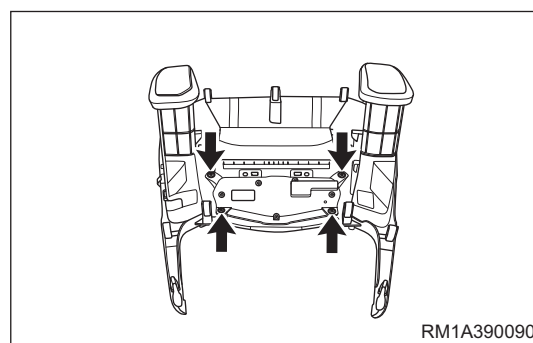


- c. Disconnect connectors (arrow) from No Disc DVD control panel and SD card, and remove control panel assembly. (if equipped with DVD)

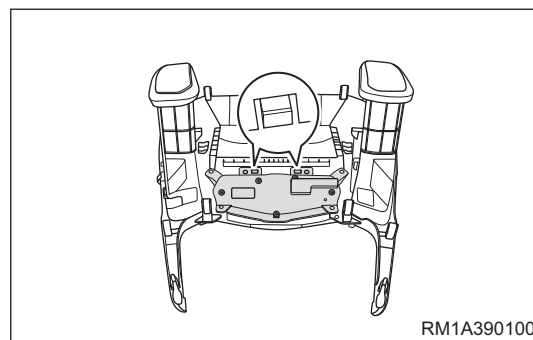


40

6. Remove the No Disc CD control panel.
 - a. Remove 4 fixing screws (arrow) from No Disc CD control panel.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)



- b. Using a screwdriver wrapped with protective tape, pry off clips from No Disc CD control panel, and remove No Disc CD control panel.



Inspection

1. Check No Disc CD control panel connectors and terminals for deformation or damage. Replace if necessary.
2. Check connectors for damage. Replace if necessary.
3. Check No Disc CD control panel for deformation or damage. Replace if necessary.

Installation

Installation is in the reverse order of removal.

CAUTION

- Operate carefully to prevent other components from being damaged, when installing No Disc CD control panel.
- Be sure to tighten fixing screws to specified torque, when installing No Disc CD control panel.
- Install each connector in place, when installing No Disc CD control panel.
- Check No Disc CD control panel for proper operation, after installing No Disc CD control panel.

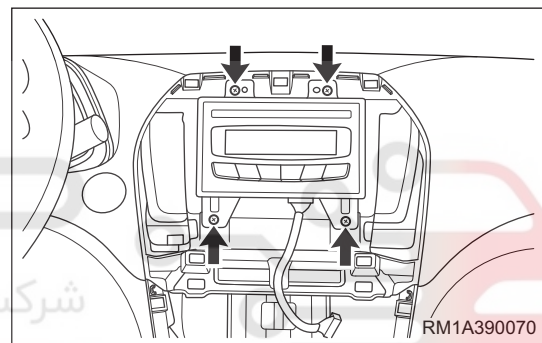
No Disc CD

Removal

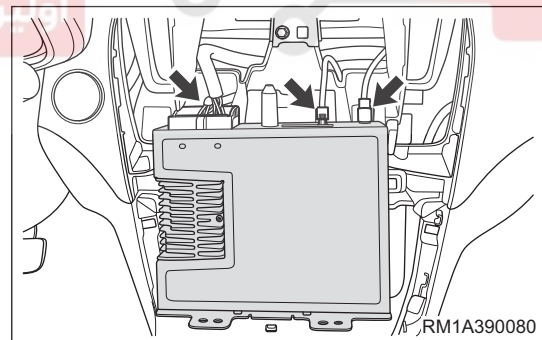
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing No Disc CD.
- Appropriate force should be applied when removing No Disc CD. Be careful not to operate roughly.
- DO NOT scratch interior when removing No Disc CD.

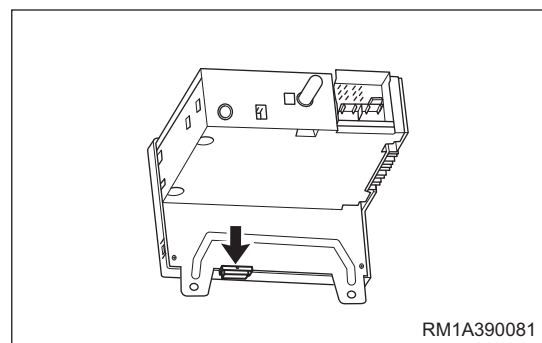
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the lower center storage box assembly (See page 40-28).
4. Remove the center control integration panel assembly (See page 40-28).
5. Remove the center control panel assembly (See page 40-28).
6. Remove the No Disc CD.
 - a. Remove 4 fixing screws (arrow) from No Disc CD trim cover assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)



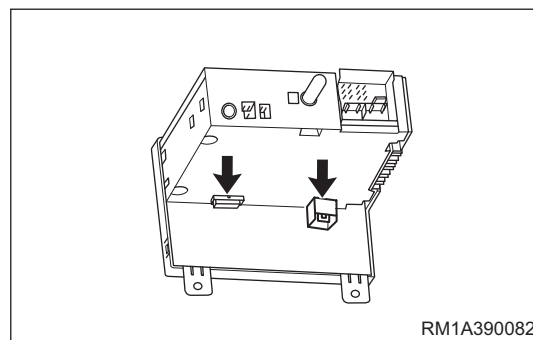
- b. Pull out No Disc CD, and disconnect connectors and antenna (arrow) from rear part of No Disc CD.



- c. Disconnect connector (arrow) from control panel in front of No Disc CD.



- d. Disconnect connectors (arrow) from front part of No Disc DVD and SD card. (if equipped)



Inspection

1. Check No Disc CD connectors and terminals for deformation or damage. Replace if necessary.
2. Check connectors for damage. Replace if necessary.
3. Check No Disc CD for deformation or damage. Replace if necessary.

Installation

Installation is in the reverse order of removal.

CAUTION

- Operate carefully to prevent other components from being damaged, when installing No Disc CD.
- Be sure to tighten fixing screws to specified torque, when installing No Disc CD.
- Install each connector in place, when installing No Disc CD.
- Check No Disc CD for proper operation, after installing No Disc CD.

Tweeter Assembly (if equipped)

Removal

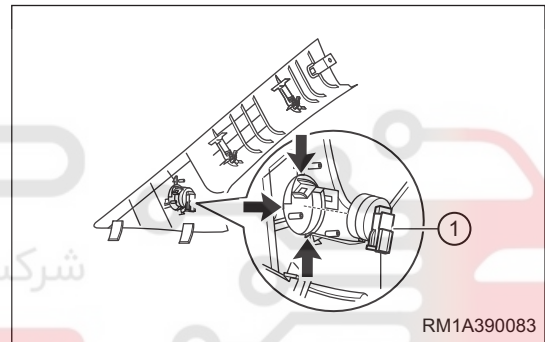
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing tweeter assembly.
- Appropriate force should be applied when removing tweeter assembly. Be careful not to operate roughly.
- DO NOT scratch front door inner protector assembly, when removing tweeter assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the tweeter assembly.
 - a. Remove the left A-pillar upper protector assembly ([See page 50-15](#)).
 - b. Using a screwdriver wrapped with protective tape, detach clips (arrow) from tweeter assembly, and remove tweeter assembly (1).



40

Inspection

1. Check tweeter connector for damage and terminals for bend or poor connection. Replace if necessary.

Installation

Installation is in the reverse order of removal.

CAUTION

- Operate carefully to prevent other components from being damaged, when installing tweeter assembly.
- Install connector in place when installing tweeter assembly.
- Check tweeter assembly for proper operation after installation.

Woofer Assembly

Removal

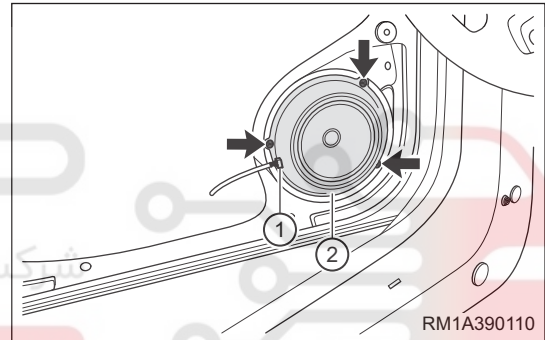
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

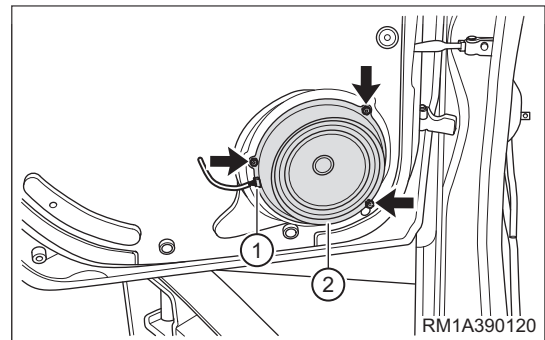
- Be sure to wear safety equipment to prevent accidents, when removing woofer assembly.
- Appropriate force should be applied when removing woofer assembly. Be careful not to operate roughly.
- DO NOT scratch interior when removing woofer assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front left door woofer.
 - a. Remove the front left door inner protector assembly (See page 48-19).
 - b. Disconnect the front left door woofer connector (1).
 - c. Remove 3 fixing screws (arrow) from front left door woofer, and remove front left door woofer (2).
(Tightening torque: $2.0 \pm 0.5 \text{ N}\cdot\text{m}$)



40

4. Remove the rear left door woofer.
 - a. Remove the rear left door inner protector assembly (See page 48-31).
 - b. Disconnect the rear left door woofer connector (1).
 - c. Remove 3 fixing screws (arrow) from rear left door woofer, and remove rear left door woofer (2).
(Tightening torque: $2.0 \pm 0.5 \text{ N}\cdot\text{m}$)



40 - AUDIO/VISUAL SYSTEM

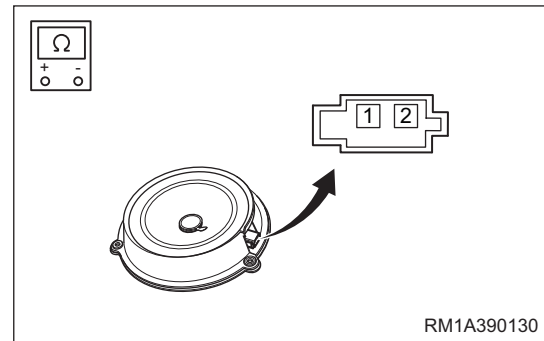
Inspection

1. Check the woofer assembly.
 - a. Using a digital multimeter, measure resistance of woofer assembly according to table below.

Standard Resistance

Multimeter Connection	Condition	Specified Condition
Terminal 1 - Terminal 2	Always	Approximately 3.5 Ω

If result is not as specified, replace woofer assembly.



2. Check cone paper of woofer assembly for damage or deformation. Replace if necessary.
3. Check woofer connector for damage and terminals for bend or poor connection. Replace if necessary.

Installation

Installation is in the reverse order of removal.

CAUTION

- Operate carefully to prevent other components from being damaged, when installing woofer assembly.
- Be sure to tighten fixing screws to specified torque, when installing woofer assembly.
- Install connector in place when installing woofer assembly.
- Check woofer assembly for proper operation after installation.

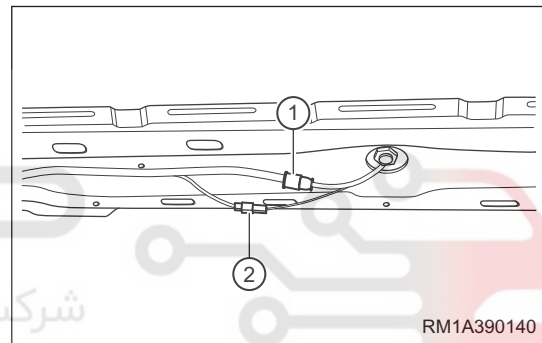
Antenna Assembly (w/Antenna Amplifier)

Removal

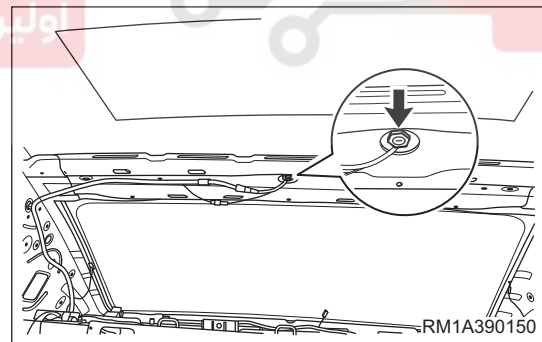
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing antenna assembly (w/antenna amplifier).
- Appropriate force should be applied when removing antenna assembly (w/antenna amplifier). Be careful not to operate roughly.
- DO NOT scratch interior when removing antenna assembly (w/antenna amplifier).

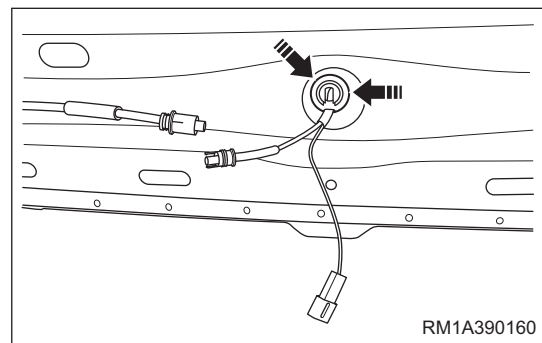
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the roof assembly (See page 50-27).
4. Remove the antenna assembly (w/antenna amplifier).
 - a. Disconnect antenna (1) and connector (2) from antenna assembly.



- b. Remove fixing nut (arrow) from antenna assembly.
(Tightening torque: $5 \pm 1 \text{ N}\cdot\text{m}$)

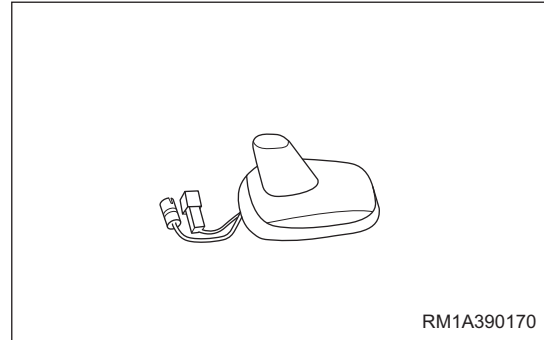


- c. Disengage clamping portion between antenna assembly and body in direction of arrow as shown in illustration.



40 - AUDIO/VISUAL SYSTEM

- d. Remove antenna assembly from top of roof.



Inspection

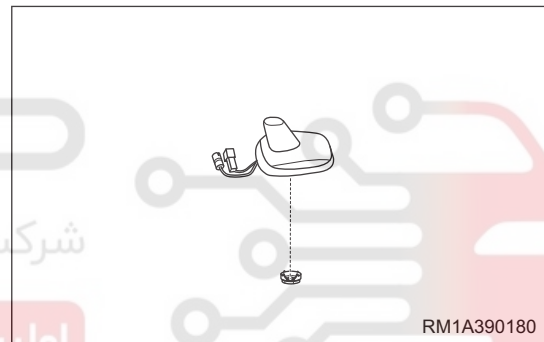
1. Check the antenna assembly.
 - a. Check antenna assembly for wear, cracks, deformation or damage. Replace if necessary.
 - b. Check antenna assembly for looseness or disengagement. Replace if necessary.
 - c. Check terminals of antenna connector for deformation or bend. Replace if necessary.

Installation

Installation is in the reverse order of removal.

HINT:

When installing antenna assembly, align recessed part of antenna assembly end with slot on fixing nut as shown in illustration, and install antenna assembly securely.



CAUTION

- Operate carefully to prevent other components from being damaged, when installing antenna assembly.
- Be sure to insert dowel pin to body positioning hole and install it in place, when installing antenna assembly.
- Be sure to tighten fixing nut to specified torque, when installing antenna assembly.
- Install each connector and antenna in place when installing antenna assembly.
- Check audio/visual system for proper operation after installing antenna assembly.

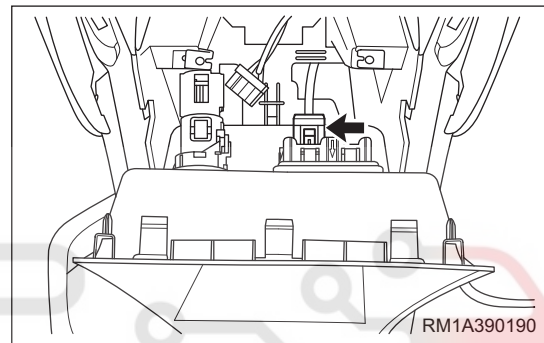
Multi-function Interface

Removal

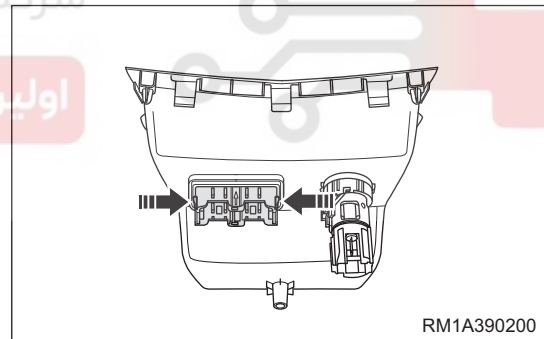
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing multi-function interface.
- Appropriate force should be applied when removing multi-function interface. Be careful not to operate roughly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the multi-function interface.
 - a. Remove the lower center storage box assembly (See page 40-28).
 - b. Disconnect the multi-function interface connector (arrow).



- c. Press locating clip on multi-function interface in direction of arrow as shown in illustration, and remove multi-function interface.



40

Installation

Installation is in the reverse order of removal.

CAUTION

- Operate carefully to prevent other components from being damaged, when installing multi-function interface.
- Install connector in place when installing multi-function interface.
- Check multi-function interface for proper operation after installation.

Steering Wheel Quick Button (if equipped)

Removal

WARNING

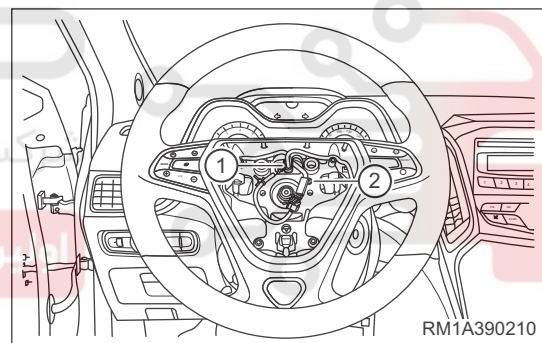
- Be sure to read precautions for SRS airbag before removing steering wheel quick button (See page 31-89).

CAUTION

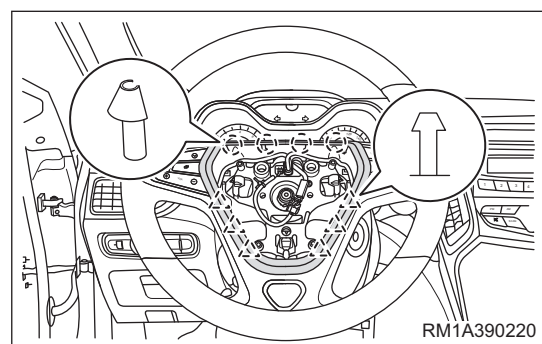
- Be sure to wear safety equipment to prevent accidents, when removing steering wheel quick button.
- Prevent damage to claws on steering wheel quick button trim cover, when removing steering wheel quick button.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the driver airbag (See page 31-89).
4. Remove the steering wheel quick button trim cover.

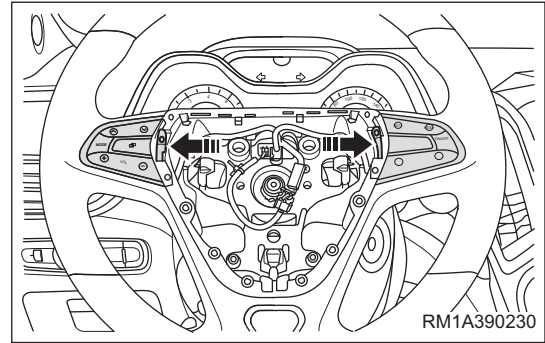
- a. Disconnect steering wheel quick button connector (1), and remove fixing screw (2) from ground wire harness.
(Tightening torque: $0.7 \pm 0.2 \text{ N}\cdot\text{m}$)



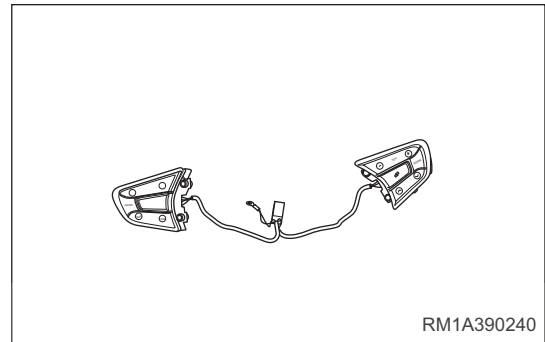
- b. Using a screwdriver wrapped with protective tape, pry off steering wheel quick button trim cover strips.



5. Remove the steering wheel quick button.
 - a. Using a screwdriver wrapped with protective tape, pry up claws (arrow) on steering wheel quick button.



- b. Remove the steering wheel quick button.

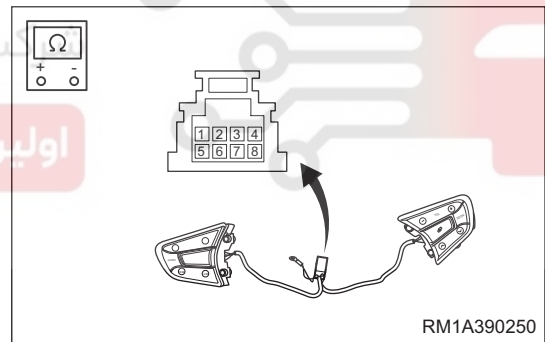


Inspection

1. Check the steering wheel quick button.
 - a. Check steering wheel quick button for damage. Replace if necessary.
 - b. Check steering wheel quick button connector for damage or terminal for poor connection. Replace if necessary.
 - c. Check for continuity of wire harness between steering wheel quick button connector and audio unit (No Disc CD). Replace if necessary.
 - d. Using a digital multimeter, measure resistance of steering wheel quick button according to table below.

Standard Resistance

Multimeter Connection	Switch Condition	Specified Condition
Terminal 3 - Terminal 8	MODE	Approximately 10 kΩ
Terminal 3 - Terminal 8	VOL+	Approximately 3.62 kΩ
Terminal 3 - Terminal 8	VOL-	Approximately 1.39 kΩ
Terminal 3 - Terminal 8	SEEK ^	Approximately 0 Ω
Terminal 3 - Terminal 8	SEEK v	Approximately 470 Ω



40 - AUDIO/VISUAL SYSTEM

If result is not as specified, replace steering wheel quick button.

Installation

Installation is in the reverse order of removal.

CAUTION

- Operate carefully to prevent other components from being damaged, when installing steering wheel quick button.
- Install each connector in place when installing steering wheel quick button.
- Tighten fixing screw to specified torque, when installing steering wheel quick button.
- Check steering wheel quick button for proper operation after installation.

دیجیتال خودرو

40 شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



REVERSING RADAR SYSTEM

GENERAL INFORMATION	41-3	DIAGNOSIS & TESTING	41-7
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Reversing Radar Control Module		Removal	41-9
Assembly Terminal List	41-6	Installation	41-9

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

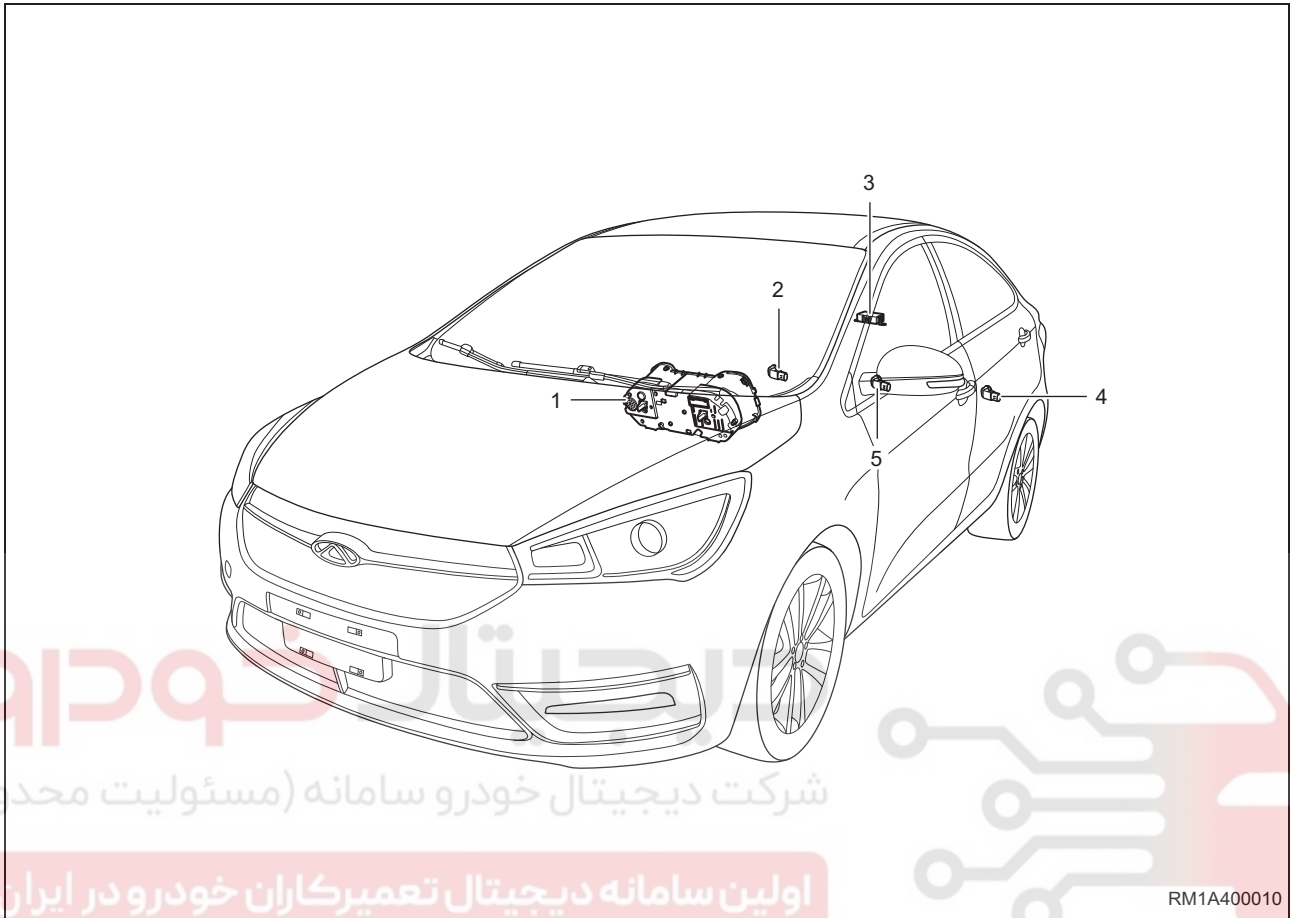
41

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



GENERAL INFORMATION

Description



41

RM1A400010

1 - Instrument Cluster (Built-in Buzzer)	2 - Right Reversing Radar Sensor
3 - Reversing Radar Control Module Assembly	4 - Left Reversing Radar Sensor
5 - Center Left Reversing Radar Sensor	

Operation

Reversing radar system is an auxiliary system intended to assist driver when reversing, which consists of reversing radar sensor (detector), reversing radar control module assembly and alarm device (instrument cluster built-in buzzer). Reversing radar system is activated when shift lever is shifted to reverse range. When reversing radar sensor detects obstacles behind, instrument cluster built-in buzzer will sound. This can help driver to eliminate defects caused by blind spot and blurred vision, thus improving the driving safety when reversing.

Normal Reversing Radar Alarm Display

Reversing radar system consists of three reversing radar sensors and one reversing radar control module assembly.

Reversing radar system is activated when shift lever is shifted to R and reversing speed is not more than 5 km/h with ignition switch ON. The corresponding detected message will be displayed on multi-information display and buzzer in instrument cluster will sound.

Reversing radar system responds with a buzzer. The table below shows the correspondence between buzzer response frequency and actual obstacle distance:

Alarm Level	1	2	3	4	5
Indicated Area	Safe	Pre-warning	Amble	Immediate Stop	Immediate Stop
Alarm Distance (cm)	> 150	95 - 150	65 - 90	40 - 60	≤ 35
Buzzer Sound Frequency	No Sound (OFF)	1Hz (ON 500 ms/OFF 500 ms)	2Hz (ON 250 ms/OFF 250 ms)	4Hz (ON 125 ms/OFF 125 ms)	Continuous Sound

Specification

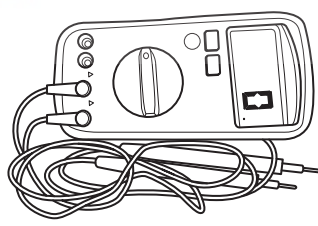
Torque Specification

Description	Torque (N·m)
Fixing Bolt Between Reversing Radar Control Module Assembly and Body	5 ± 1

Tool

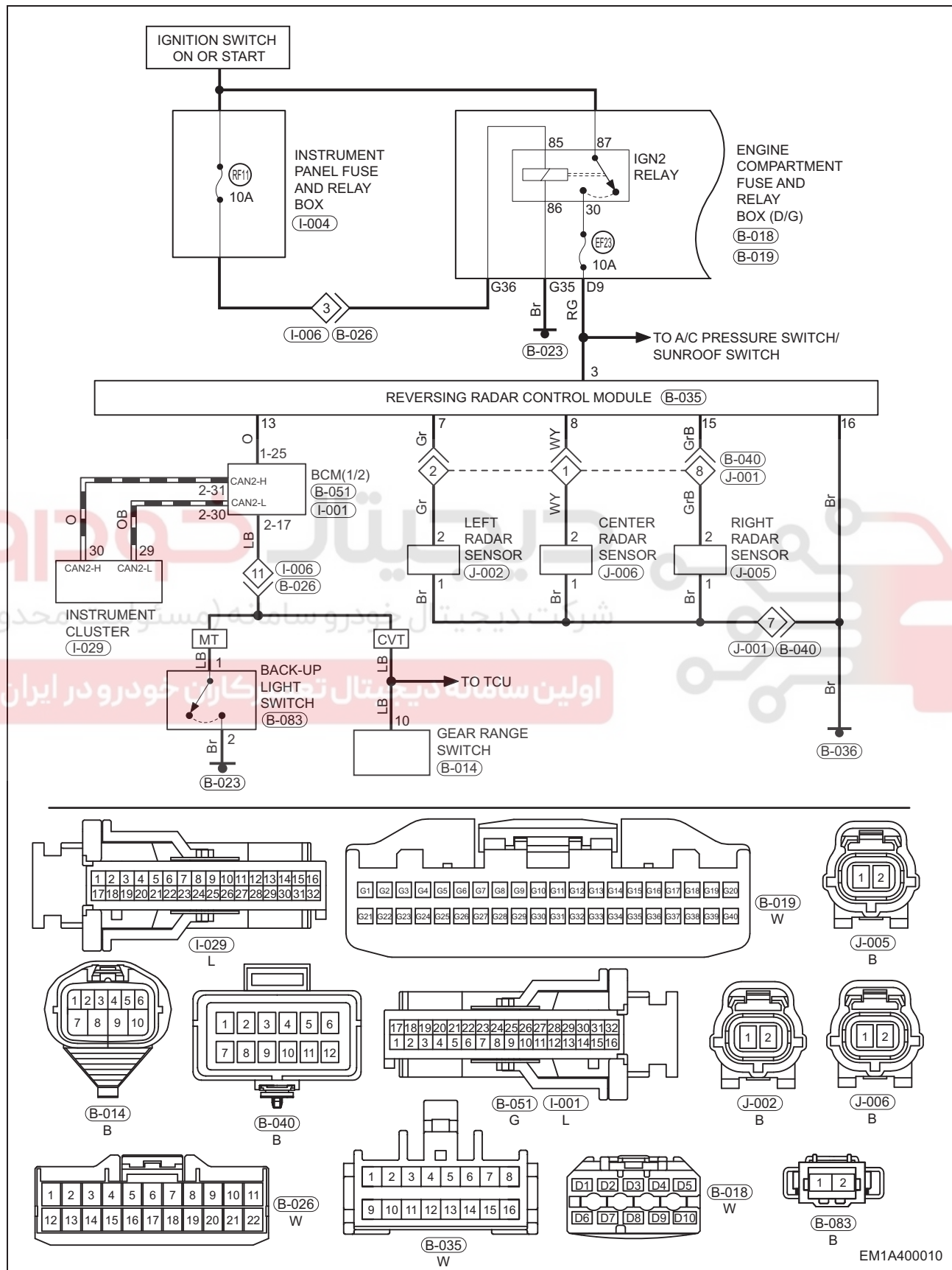
41

General Tool

Digital Multimeter	 RCH0000002
--------------------	--

Circuit Diagram

Reversing Radar System



Reversing Radar Control Module Assembly Terminal List

Terminal No.	Definition	Terminal No.	Definition
1	-	9	-
2	-	10	-
3	Battery Power Supply	11	-
4	-	12	-
5	-	13	Data Signal (to Body Control Module (BCM))
6	-	14	-
7	Left Reversing Radar Sensor Signal	15	Right Reversing Radar Sensor Signal
8	Center Left Reversing Radar Sensor Signal	16	Ground

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

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اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



DIAGNOSIS & TESTING

Problem Symptoms Table

HINT:

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

Symptom	Suspected Area	See page
Reversing radar system does not function (buzzer in instrument cluster does not sound)	Back-up light switch assembly	36-89
	Reversing radar sensor	41-8
	Reversing radar control module assembly	41-9
	Instrument cluster	39-49
	Wire harness and connector	-

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



ON-VEHICLE SERVICE

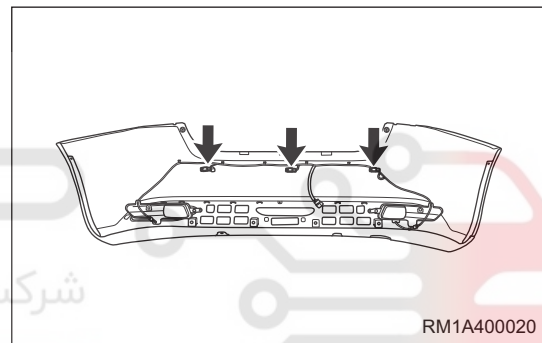
Reversing Radar Sensor

Removal

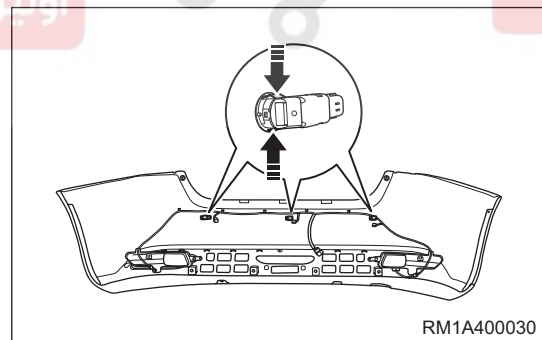
CAUTION

- Be sure to wear necessary safety equipment to prevent accidents, when removing reversing radar sensors.
- Operate carefully to avoid damaging reversing radar sensors, when removing reversing radar sensors.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear bumper assembly (See page 49-21).
4. Remove the reversing radar sensor.
 - a. Disconnect the reversing radar sensor connectors (arrow).



- b. Press clamping portion on reversing radar sensor in direction of arrows as shown in illustration.
- c. Remove reversing radar sensor from rear bumper assembly.



Installation

Installation is in the reverse order of removal.

HINT:

When installing reversing radar sensor, align boss at the end of reversing radar sensor with the groove on rear bumper assembly, and then firmly install reversing radar sensor.

CAUTION

- Install connectors in place when installing reversing radar sensors.
- Check reversing radar system for proper operation, after installing reversing radar sensors.

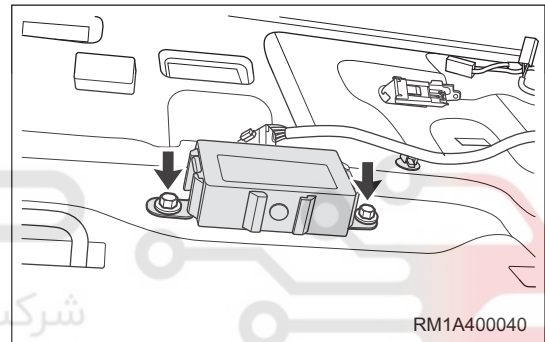
Reversing Radar Control Module Assembly

Removal

CAUTION

- Be sure to wear necessary safety equipment to prevent accidents, when removing reversing radar control module assembly.
- Appropriate force should be applied, when removing reversing radar control module assembly. Be careful not to operate roughly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the tonneau cover assembly (See page 50-33).
4. Removing the reversing radar control module assembly.
 - a. Disconnect the reversing radar control module assembly connector.
 - b. Remove 2 fixing bolts (arrow) between reversing radar control module assembly and body, and remove reversing radar control module assembly.
(Tightening torque: $5 \pm 1 \text{ N}\cdot\text{m}$)



41

Installation

Installation is in the reverse order of removal.

CAUTION

- Tighten fixing bolts to specified torque, when installing reversing radar control module assembly.
- Install connector in place when installing reversing radar control module assembly.
- Check reversing radar system for proper operation, after installing reversing radar control module assembly.

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



HORN

GENERAL INFORMATION	42-3	Horn Fuse Inspection	42-6
Description	42-3	Horn Relay Inspection	42-7
Specification	42-4	ON-VEHICLE SERVICE	42-8
Tool	42-4	Horn	42-8
Circuit Diagram	42-5	Removal	42-8
DIAGNOSIS & TESTING	42-6	Inspection	42-8
Problem Symptoms Table	42-6	Installation	42-8

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



دیجیتال خودرو

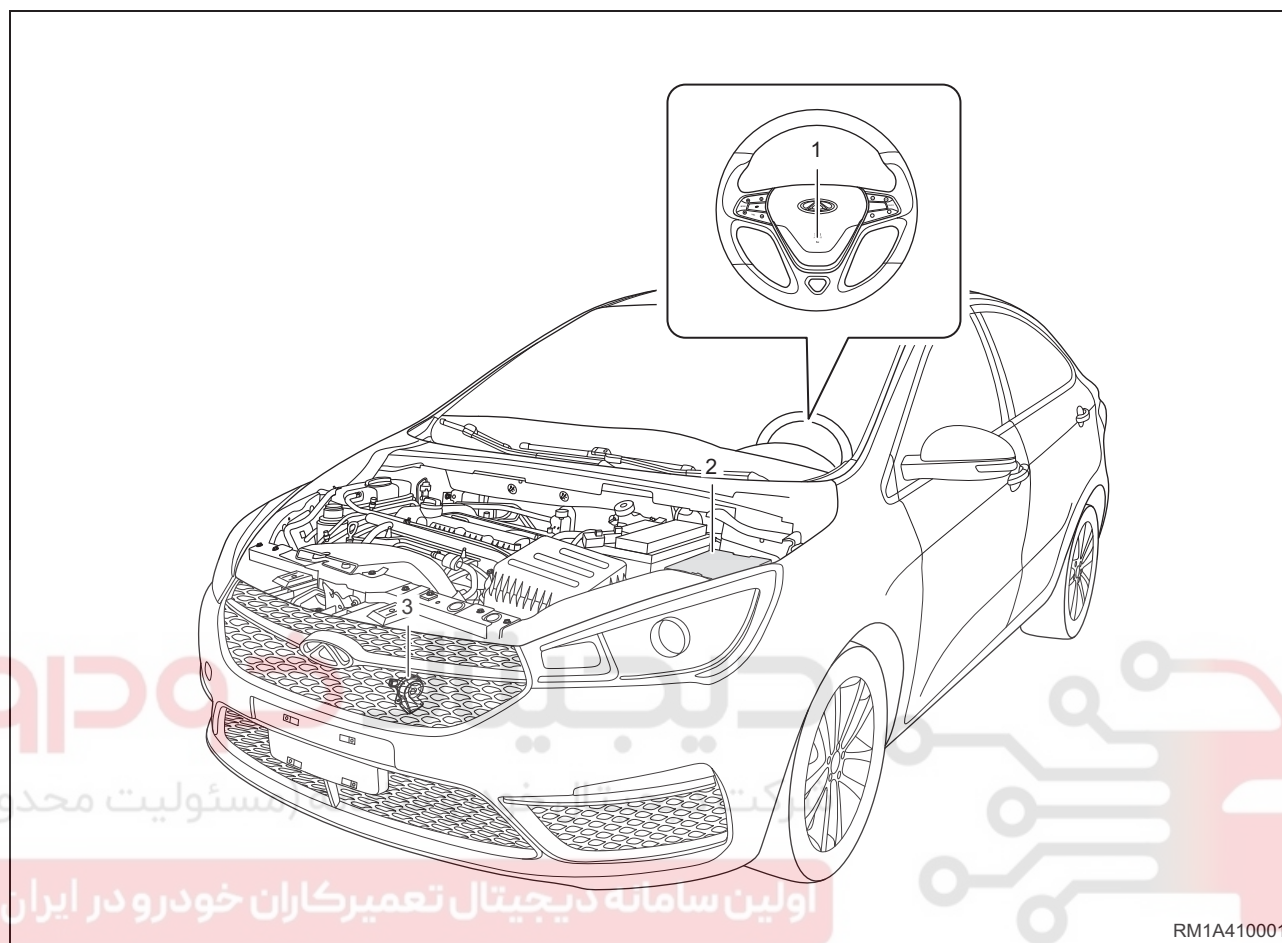
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران 42



GENERAL INFORMATION

Description



RM1A410001

42

1 - Horn Switch	2 - Engine Compartment Fuse and Relay Box
3 - High Pitched Horn	

This vehicle is equipped with single electronic horn (high pitched) system.

Horn system consists of following components:

- Horn: high pitched horn is installed on body frame side rail.
- Horn switch: installed on steering wheel.
- Horn fuse: located in engine compartment fuse and relay box.
- Horn relay: located in engine compartment fuse and relay box.

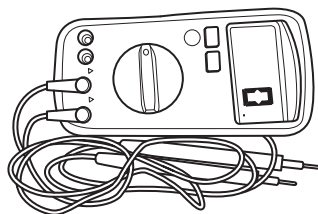
Specification

Torque Specification

Description	Torque (N·m)
Horn Bracket Fixing Nut	16 ± 2

Tool

General Tool

Digital Multimeter	 RCH0000002
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دیجیتال خودرو

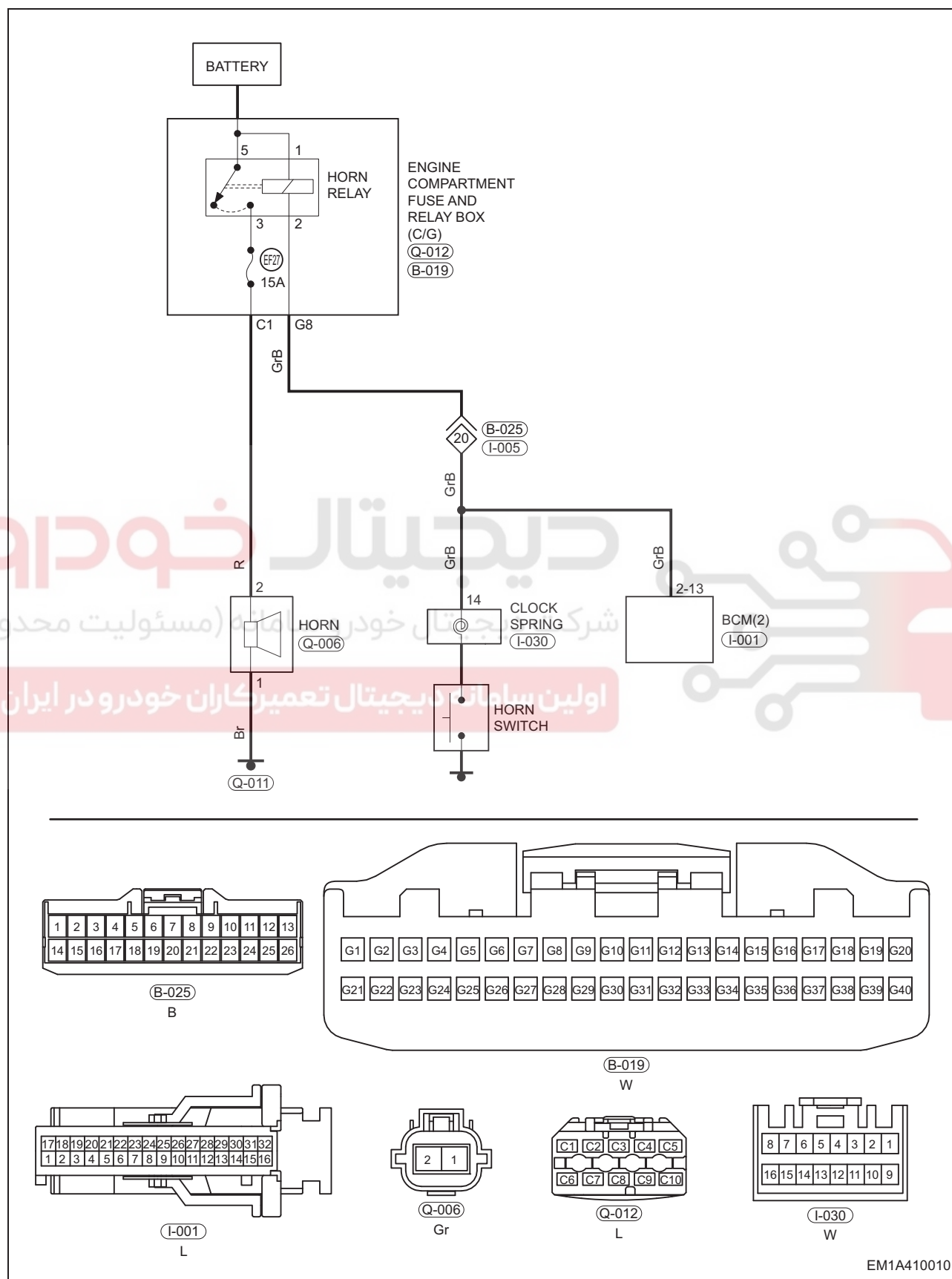
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران 42



Circuit Diagram

Horn



DIAGNOSIS & TESTING

Problem Symptoms Table

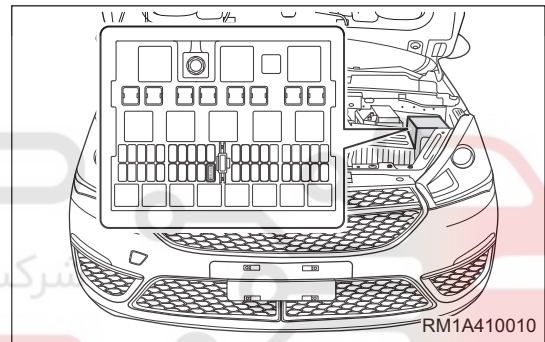
HINT:

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

Symptom	Suspected Area	See page
Horn does not sound	Horn fuse (blown)	54-32
	High pitched horn (damaged)	42-8
	Horn switch (damaged)	31-90
	Spiral cable (damaged)	31-92
	Wire harness (short or open)	-

Horn Fuse Inspection

1. Identify horn fuse in engine compartment fuse and relay box.



42

2. Check the horn fuse.
 - a. Using a fuse puller, remove horn fuse (15 A).
 - b. Check if fuse is blown. Replace fuse if it is blown.

CAUTION

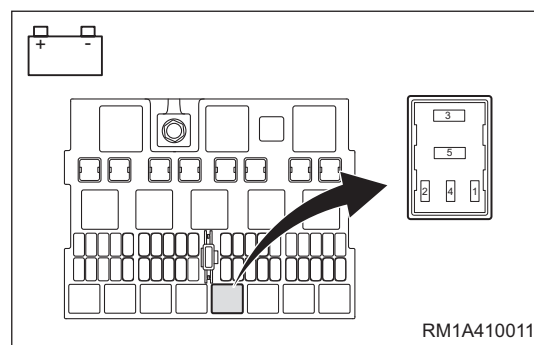
- Use a fuse with the same specification as original fuse to avoid affecting normal usage of electrical equipment.

Horn Relay Inspection

1. Check the horn relay.
 - a. Remove horn relay from engine compartment fuse and relay box.
 - b. Check the horn relay.

Multimeter Connection	Condition	Specified Condition
Terminal 3 - Terminal 5	When battery voltage is not applied between terminal 2 and terminal 1	No continuity
Terminal 3 - Terminal 5	When battery voltage is applied between terminal 2 and terminal 1	Continuity

If result is not as specified, replace relay.



دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

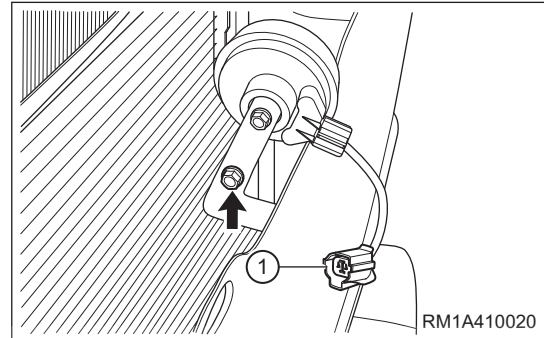


ON-VEHICLE SERVICE

Horn

Removal

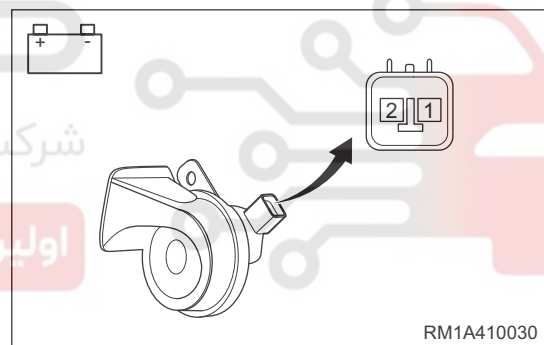
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front bumper assembly (See page 49-8).
4. Remove the high pitched horn.
 - a. Disconnect high pitched horn wire harness connector (1).
 - b. Remove fixing nut (arrow) from high pitched horn bracket, and remove high pitched horn.
(Tightening torque: 16 ± 2 N·m)



Inspection

1. Check the high pitched horn.
Apply battery voltage to high pitched horn and check the operation of high pitched horn.

Measurement Condition	Condition	Specified Condition
Battery positive (+) - Terminal 1	Always	Horn sounds
Battery negative (-) - Terminal 2		



If result is not as specified, replace high pitched horn.

2. Check the wire harness.
Using a digital multimeter, check horn system wire harness for an open, short or ground failure.
Replace wire harness if necessary.

Installation

Installation is in the reverse order of removal.

CAUTION

- Tighten fixing nut to specified torque.
- Install connector in place.

OTHER SYSTEM

GENERAL INFORMATION

Description

Circuit Diagram

43-3

43-3

43-4

ON-VEHICLE SERVICE

Cigarette Lighter Assembly

Removal

Installation

43-5

43-5

43-5

43-6

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



دیجیتال خودرو

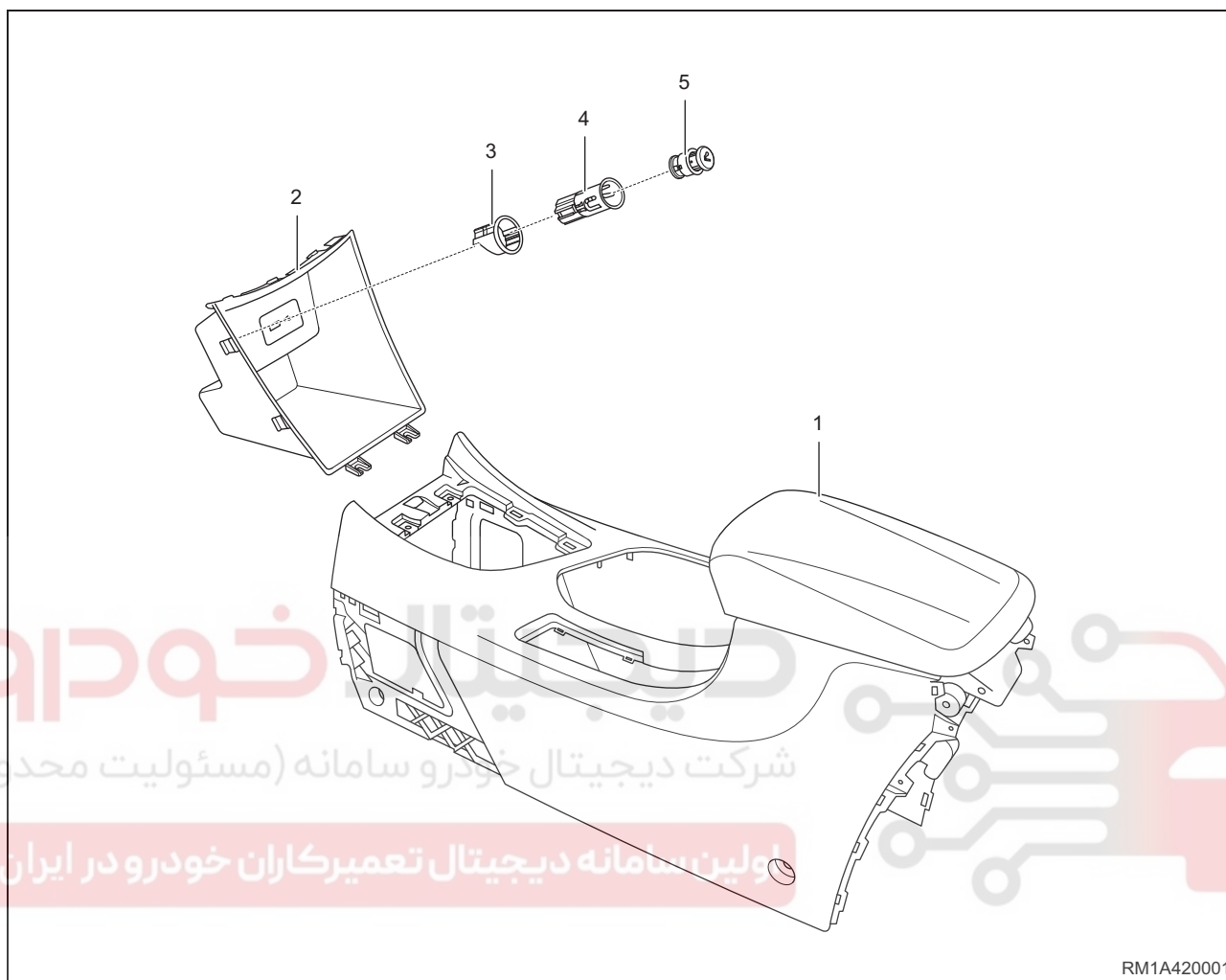
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GENERAL INFORMATION

Description



RM1A420001

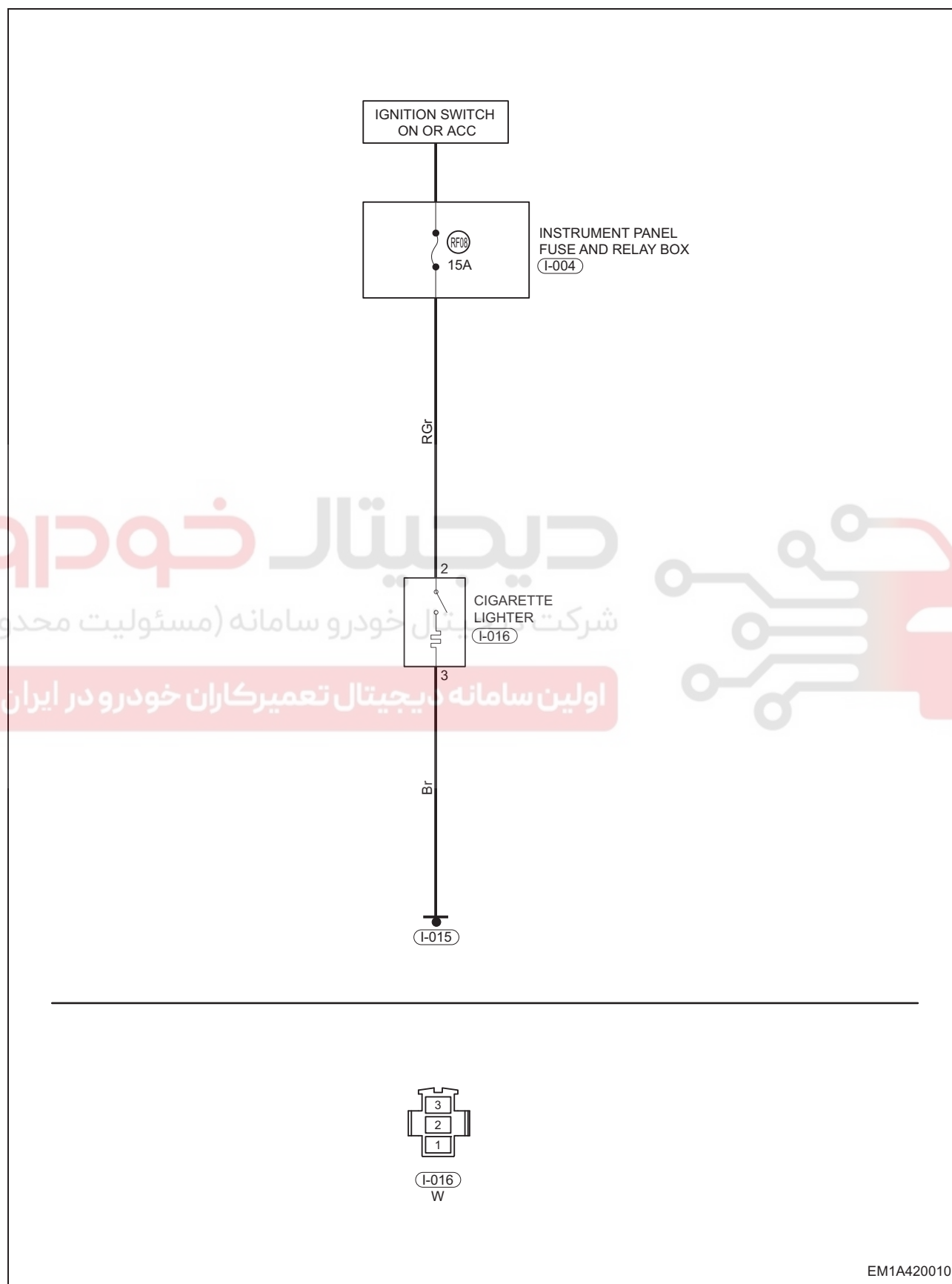
43

1 - Auxiliary Fascia Console Assembly	2 - Lower Center Storage Box
3 - Cigarette Lighter Socket	4 - Cigarette Lighter Retainer
5 - Cigarette Lighter Element	

Cigarette lighter assembly is located on lower center storage box.

Circuit Diagram

Other System



ON-VEHICLE SERVICE

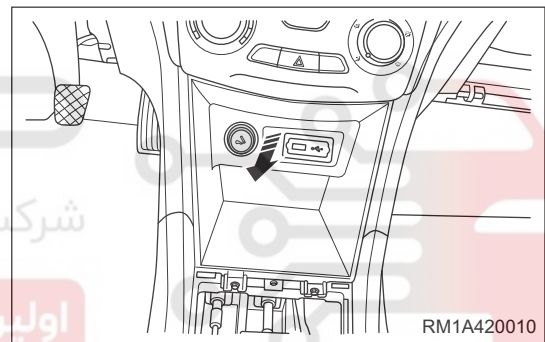
Cigarette Lighter Assembly

Removal

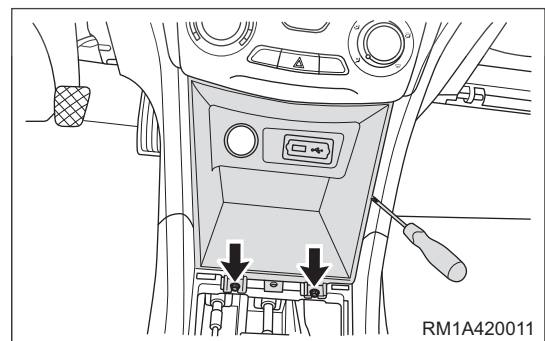
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing cigarette lighter assembly.
- Appropriate force should be applied, when removing cigarette lighter assembly. Be careful not to operate roughly.
- Try to prevent lower center storage box assembly from being scratched, when removing cigarette lighter assembly.

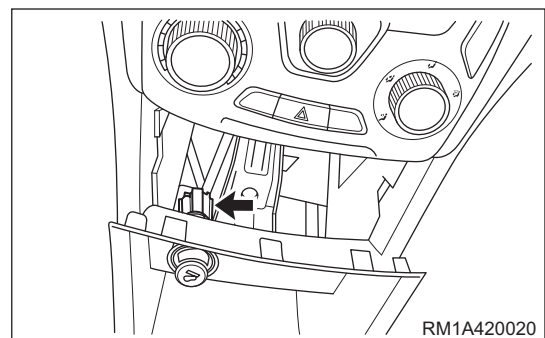
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the shift knob assembly.
4. Remove the cigarette lighter assembly.
 - a. Remove cigarette lighter element in direction of arrow as shown in illustration.



- b. Remove 2 fixing screws (arrow) from the lower part of storage box.
- c. Using a screwdriver wrapped with protective tape, pry off clips on lower center storage box, and remove lower center storage box.

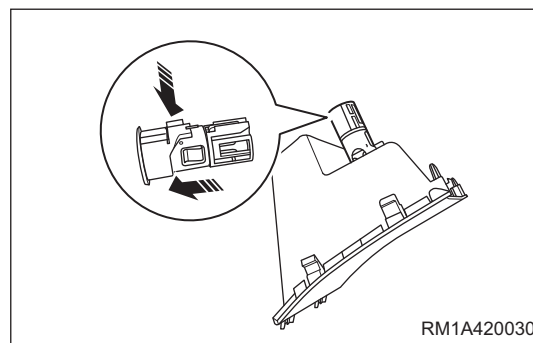


- d. Disconnect the cigarette lighter connector (arrow).

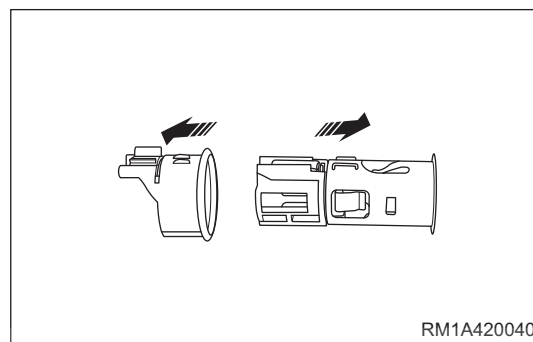


43 - OTHER SYSTEM

- e. Push outward cigarette lighter assembly, then press claws on cigarette lighter socket to push out cigarette lighter, in directions of arrows as shown in illustration.



- f. Separate cigarette lighter socket and cigarette lighter retainer in directions of arrows as shown in illustration.

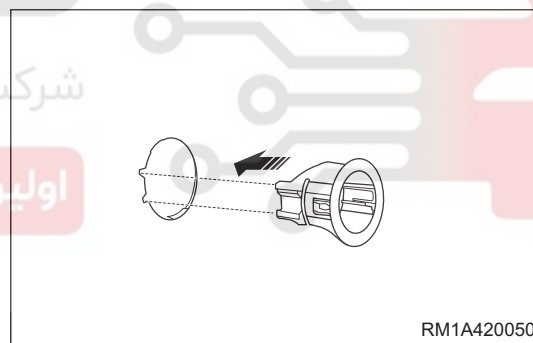


Installation

Installation is in the reverse order of removal.

HINT:

When installing cigarette lighter, align protrusions of cigarette lighter socket with slots on lower center storage box as shown in illustration, and install cigarette lighter securely.



CAUTION

- Check cigarette lighter for proper operation, after installing cigarette lighter assembly.

WINDSHIELD/WINDOW GLASS

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B100C-71	44-17	Front Door Power Glass Regulator	44-56
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دیجیتال خودرو

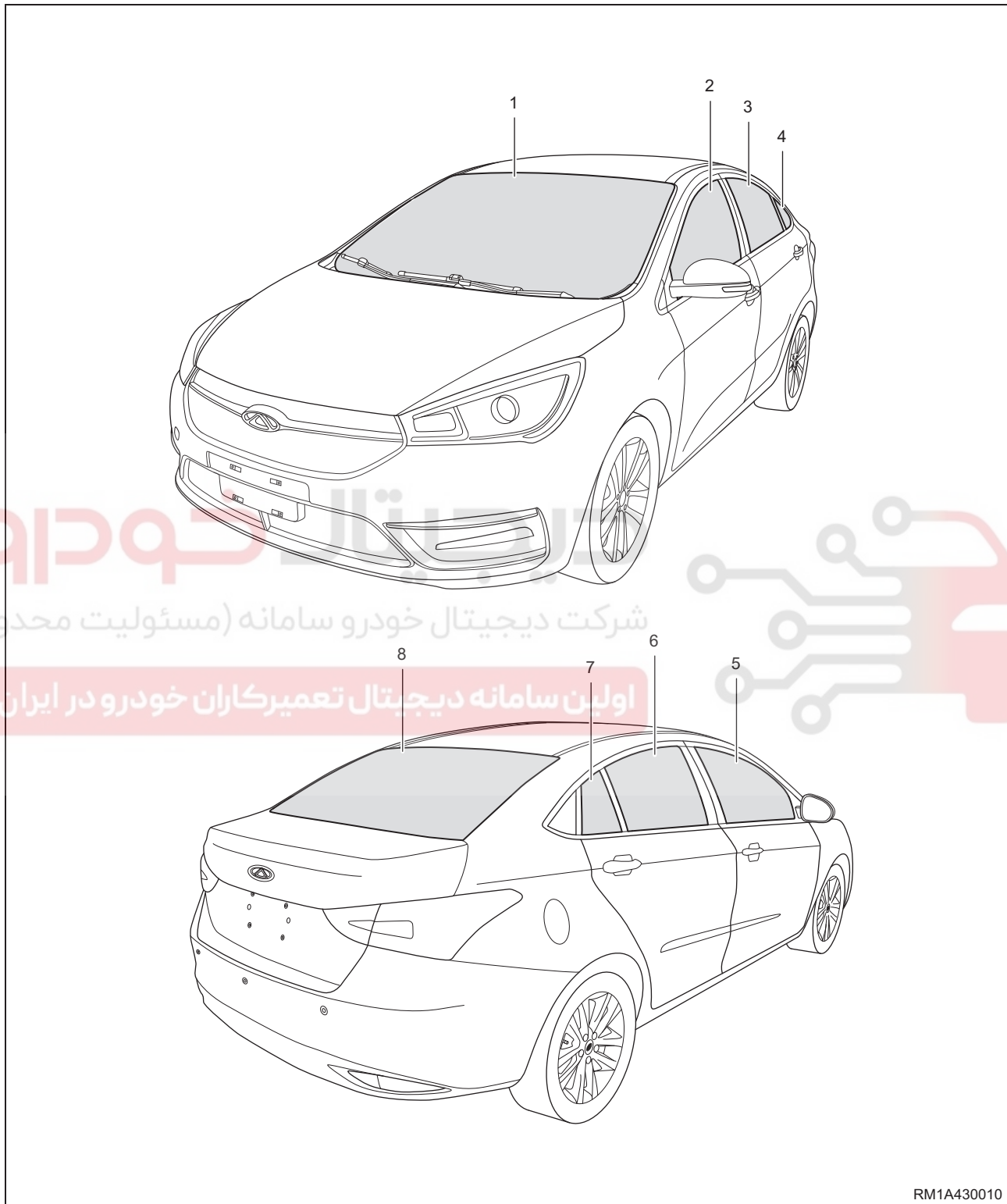
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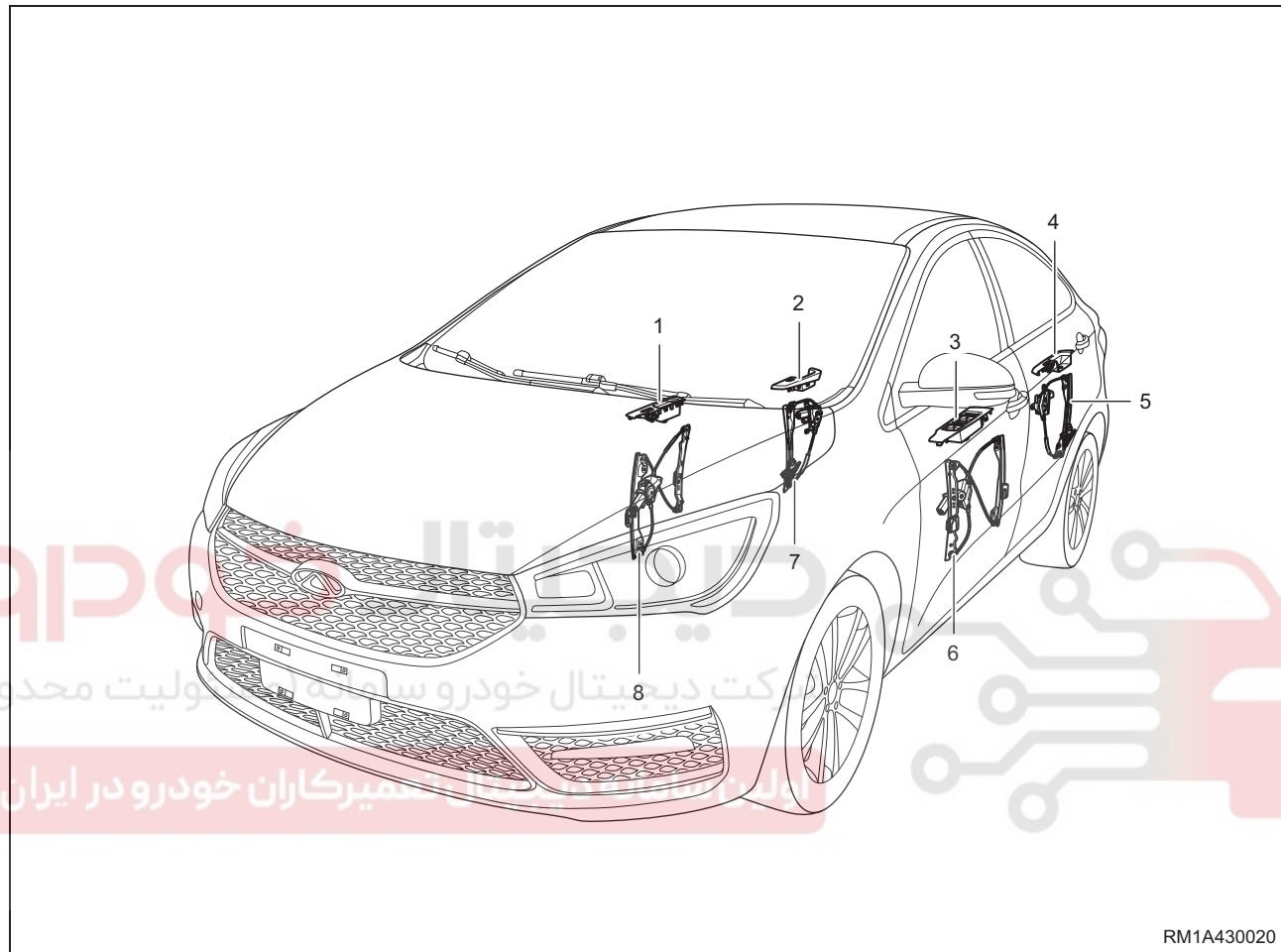
GENERAL INFORMATION

Description



44 - WINDSHIELD/WINDOW GLASS

1 - Front Windshield Assembly	2 - Front Left Door Glass Assembly
3 - Rear Left Door Glass Assembly	4 - Rear Left Door Triangular Window Glass
5 - Front Right Door Glass Assembly	6 - Rear Right Door Glass Assembly
7 - Rear Right Door Triangular Window Glass	8 - Rear Windshield Assembly



1 - Front Right Door Glass Regulating Switch Assembly	2 - Rear Right Door Glass Regulating Switch Assembly
3 - Front Left Door Glass Regulating Switch Assembly	4 - Rear Left Door Glass Regulating Switch Assembly
5 - Rear Left Door Glass Regulator	6 - Front Left Door Glass Regulator
7 - Rear Right Door Glass Regulator	8 - Front Right Door Glass Regulator

Power window control system controls each window glass UP/DOWN function, by operating the glass regulating switches on door inner protector assembly. Its main controls include: front left door glass regulating switch (built into driver side door) and glass regulating switches (built into front and rear passenger side doors). Pulling/Pushing front left door glass regulating switch or any power glass regulating switch results in an UP/DOWN signal transmitted to corresponding power glass regulator motor, thus controlling the UP/DOWN operation of its respective power window glass.

Main Component Function

Component	Description
Power window lock switch	Located in front left door inner protector assembly, and controls operations of front and rear passenger side glass regulating switches. When power window lock switch is in lock position, UP/DOWN operation of power window glass is possible only with driver side power glass regulating switch.
Power glass regulating switch	Located in door inner protector assembly. Each switch controls UP/DOWN operation of its corresponding power window glass.
Power glass regulator	Changes power window glass position.

System Function

Function	Description
Manual UP function	Enables power window glass to move up when glass regulating switch is being pulled, and stops when switch is released.
Manual DOWN function	Enables power window glass to move down when glass regulating switch is being pushed, and stops when switch is released.
Automatic DOWN function	Enables power window glass to automatically move down by a short push of glass regulating switch. To stop it partway, push or pull the switch again.
Automatic UP function	Equipped for driver side power window, and enables power window glass to automatically move up by a short pull of front left door glass regulating switch. To stop it partway, push or pull switch again.
Power window LOCK function	Disables all passenger side power window glass up/down operations with respective window glass regulating switches when power window lock switch is pushed. In this case, only driver side power window glass is available. This function can be canceled only when power window lock switch is pushed again.

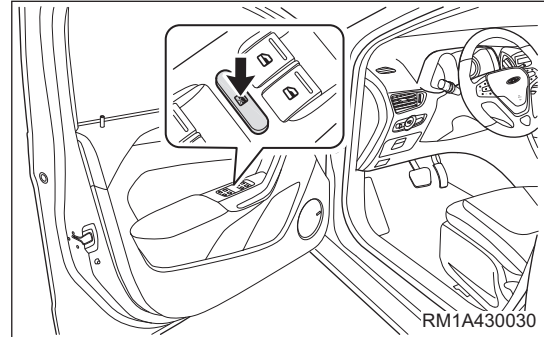
Operation Inspection

1. Check the power window lock switch.
 - a. Check that front and rear passenger side power window glass cannot be operated with front and rear passenger side power glass regulating switches, when power window lock switch is pressed.

OK: Operations of front and rear passenger power glass regulating switches are disabled.

- b. Check that front and rear passenger side power window glass can be operated with front and rear passenger side power glass regulating switches, when power window lock switch is pressed again.

OK: Operations of front and rear passenger side power glass regulating switches are enabled.



2. Check the manual UP/DOWN function.
 - a. Check that driver side power window glass operates as follows:

OK

Condition	Front Left Door Glass Regulating Switch	Switch Operation	Power Window Glass
Ignition switch ON	Driver side	Pulled	UP (close)
		Pushed	DOWN (open)

- b. Check that power window glass other than driver side power window glass operates as follows:

OK

Condition	Power Glass Regulating Switch	Switch Operation	Power Window Glass
• Ignition switch ON • Window lock switch OFF	Passenger side	Pulled	UP (close)
		Pushed	DOWN (open)
	Rear left side	Pulled	UP (close)
		Pushed	DOWN (open)
	Rear right side	Pulled	UP (close)
		Pushed	DOWN (open)

3. Check the remote manual UP/DOWN function.
 - a. Check that driver side power window glass operates as follows:

OK

Condition	Glass Regulating Switch	Switch Operation	Power Window Glass
Ignition switch ON	Driver side	Fully pulled	UP (close)
		Fully pushed	DOWN (open)

b. Check that power window glass other than driver side power window glass operates as follows:

OK

Condition	Power Glass Regulating Switch	Switch Operation	Power Window Glass
- Ignition switch ON - Window lock switch OFF	Passenger side	Pulled	UP (close)
		Pushed	DOWN (open)
	Rear left side	Pulled	UP (close)
		Pushed	DOWN (open)
	Rear right side	Pulled	UP (close)
		Pushed	DOWN (open)

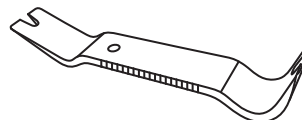
Specifications

Description	Torque (N·m)
Front Door Cover Plate Fixing Screw	1.5 ± 0.5
Front Door Glass Rear Guide Rail Assembly Fixing Bolt	7 ± 1
Front Door Power Glass Regulator Fixing Bolt	7 ± 1
Front Door Power Glass Regulator Fixing Nut	7 ± 1
Rear Door Cover Plate Fixing Screw	1.5 ± 0.5
Rear Door Glass Front Guide Rail Assembly Fixing Bolt	7 ± 1
Rear Door Glass Rear Guide Rail Assembly Fixing Bolt	7 ± 1
Rear Door Power Glass Regulator Fixing Bolt	7 ± 1
Rear Door Power Glass Regulator Fixing Nut	7 ± 1
Center Control Integration Panel Assembly	1.5 ± 0.5

Tools

Special Tool

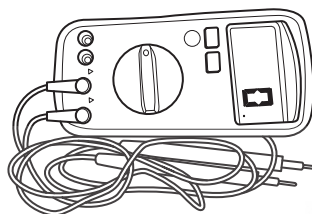
Interior Crow Plate



RCH0000025

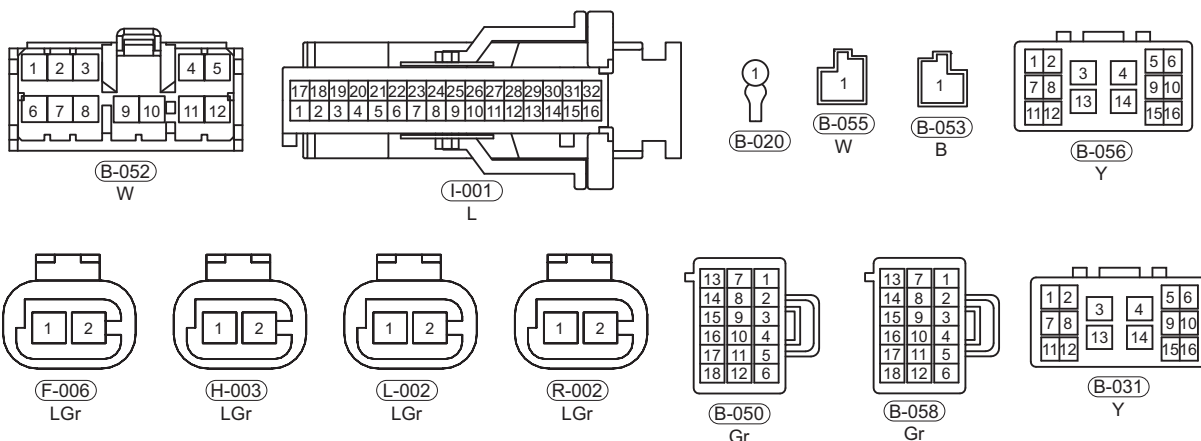
General Tool

Digital Multimeter



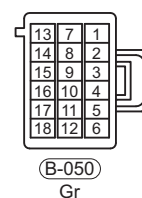
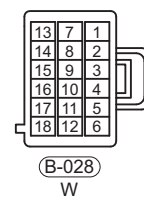
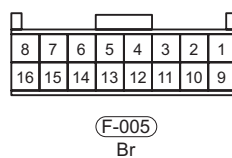
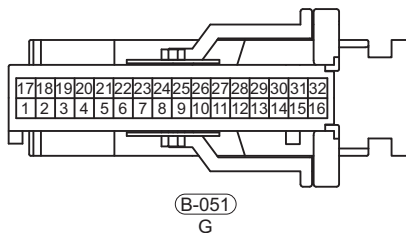
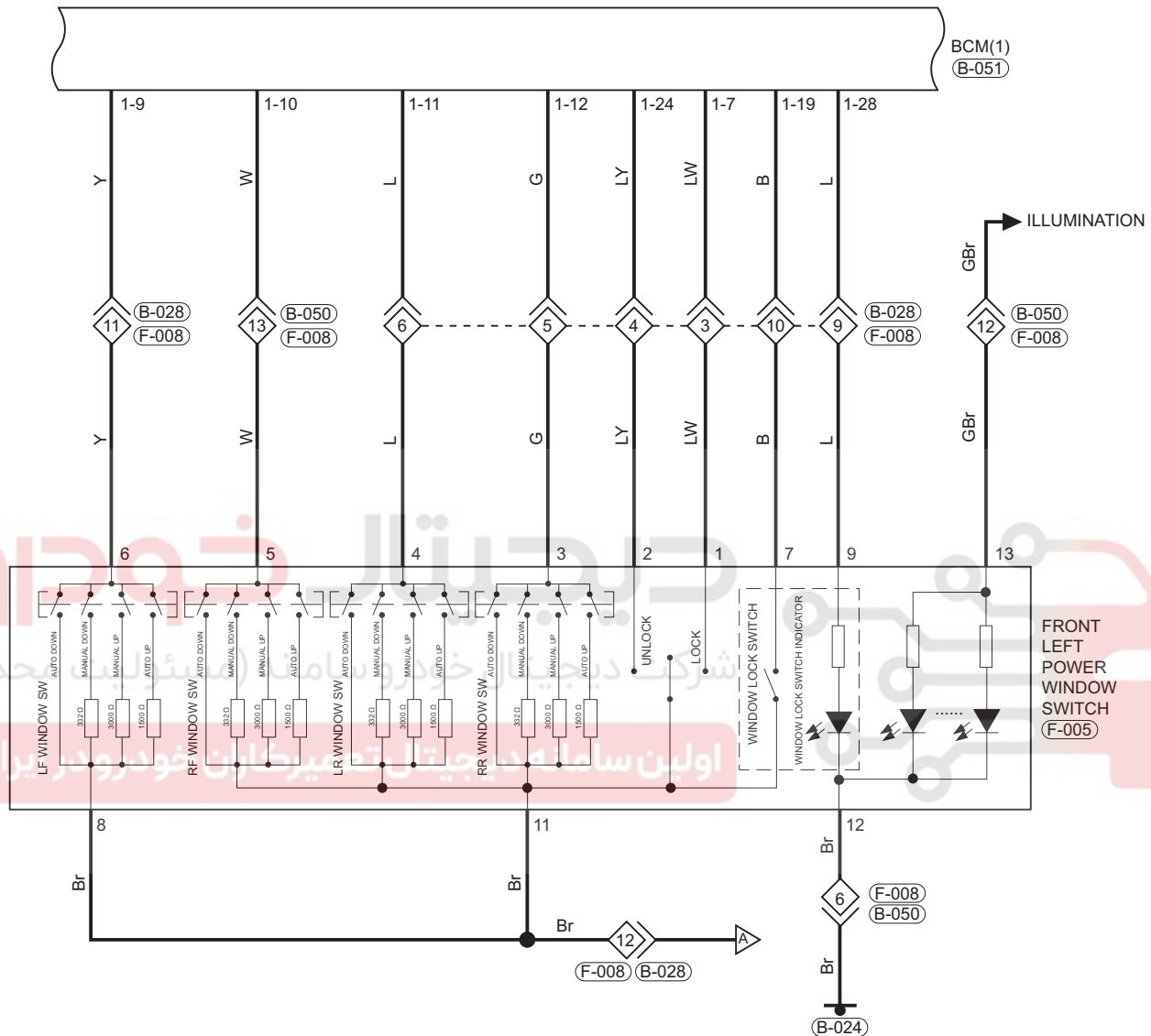
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Power Window Control System (Page 1 of 3)



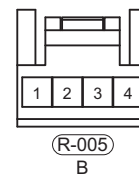
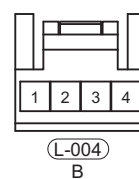
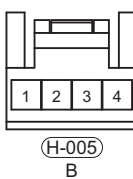
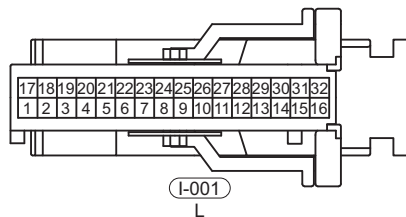
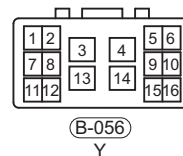
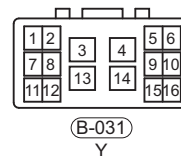
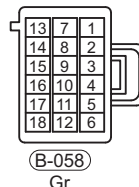
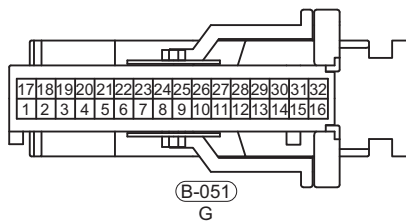
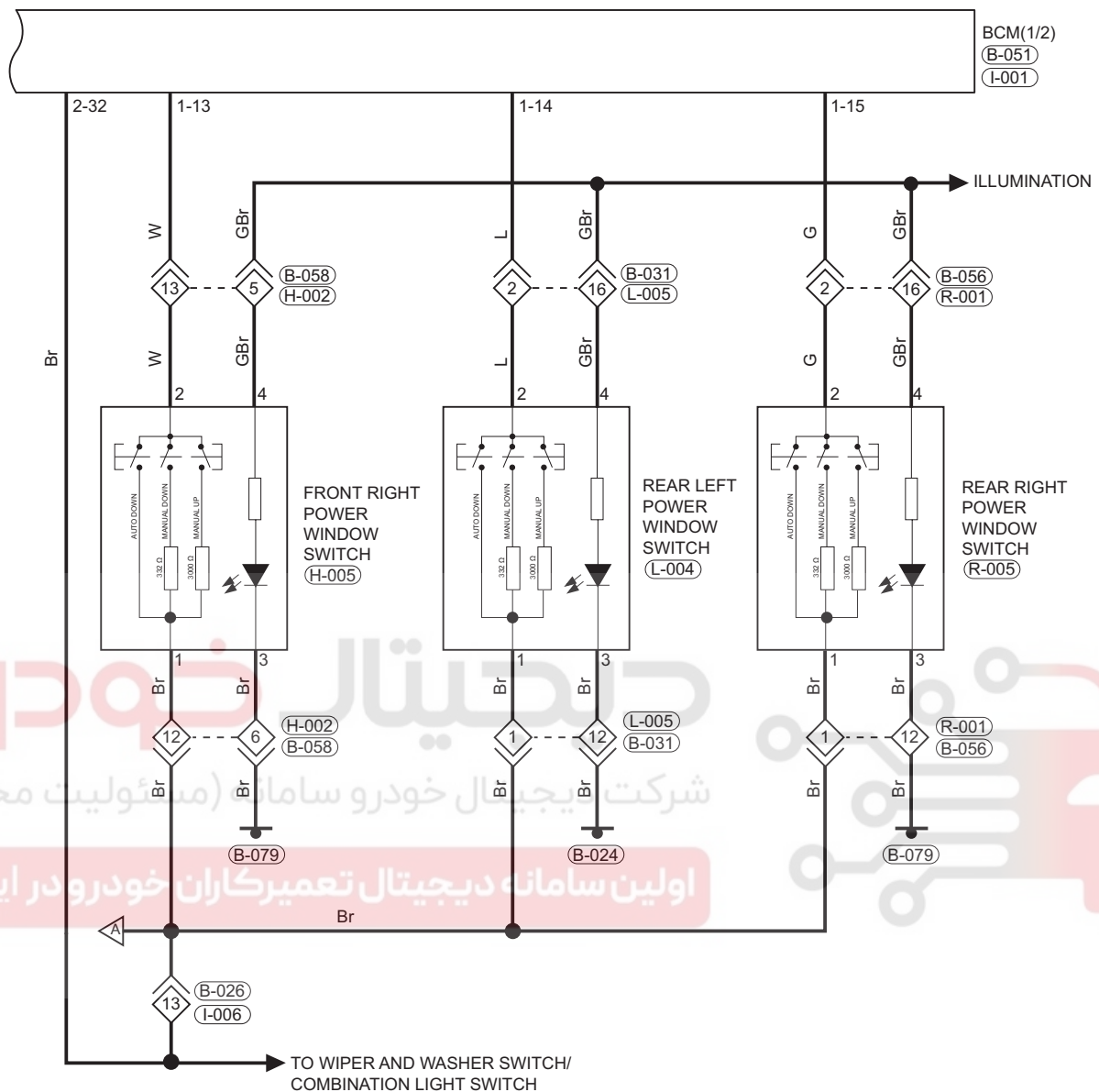
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Power Window Control System (Page 2 of 3)



EM1A430020

Power Window Control System (Page 3 of 3)



EM1A430030

DIAGNOSIS & TESTING

Problem Symptoms Table

HINT:

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

Symptom	Suspected Area	See page
Driver/passenger side power window glass cannot operate with driver side glass regulating switch	Power supply, fuse	54-32
	Driver side glass regulating switch	44-58
	Driver/Passenger side power glass regulator	44-56
	Wire harness or connector	-
	Body Control Module (BCM)	-
Passenger side power window glass cannot operate with passenger side power glass regulating switch	Power source, fuse	54-32
	Passenger side power glass regulating switch	44-58
	Passenger side power glass regulator	44-56
	Wire harness or connector	-
	Body Control Module (BCM)	-
Power window glass has intermittent problem	Ground	54-4
	Wire harness or connector	54-4

Diagnosis Tools

X-431 3G Diagnostic Tester

When connecting X-431 3G diagnostic tester:

44

- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC) for communication with vehicle.
- DLC is located at driver side instrument panel crossmember.
- DLC uses a trapezoidal design which can hold 16 terminals.

Digital Multimeter

When using digital multimeter:

- Troubleshoot electrical malfunctions and wire harness system.
- Look for basic fault.
- Measure voltage, current and resistance.

Diagnostic Help

1. Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
2. Confirm that the malfunction is current, and carry out diagnostic test and repair procedures.
3. If DTC cannot be deleted, the malfunction is current.
4. Only use a digital multimeter to measure voltage of electronic system.
5. Refer to any Technical Bulletin that may apply to the malfunction.
6. Visually check the related wire harness.
7. Check and clean all BCM system grounds related to the latest DTC.
8. If multiple trouble codes were set, use circuit diagrams and look for any common ground circuit or power supply circuit applied to the DTC.

Intermittent DTC Troubleshooting

If malfunction is intermittent, perform the followings:

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

Ground Inspection

Ground points are very important to entire circuit system, which are normal or not can seriously affect the entire circuit system. Ground points are often exposed to moisture, dirt and other corrosive environments. Corrosion (rust) and oxidation may increase load resistance. This situation will seriously affect the normal operation of circuit. Check the ground points as follows:

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

Diagnosis Procedure

HINT:

Use following procedures to troubleshoot the power glass system.

1 Vehicle brought to workshop

NEXT

2 Check battery voltage

Standard voltage: 11 to 14 V

If 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

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5 Problem repair (no DTCs), then 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 been repaired
---	--

NEXT

10	End
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Diagnostic Trouble Code (DTC) Chart

DTC	DTC Definition
B1022-71	FL Window Button Stuck Circuit Actuator Stuck
B1023-71	FR Window Button Stuck Circuit Actuator Stuck
B1033-71	RL Window Button Stuck Circuit Actuator Stuck
B1025-71	RR Window Button Stuck Circuit Actuator Stuck
B1026-71	Passenger FR Window Button Stuck Circuit Actuator Stuck
B1034-71	Passenger RL Window Button Stuck Circuit Actuator Stuck
B1028-71	Passenger RR Window Button Stuck Circuit Actuator Stuck
B1029-71	FL Window Relay Actuator Stuck
B102A-71	FR Window Relay Actuator Stuck
B102B-71	RL Window Relay Actuator Stuck
B102C-71	RR Window Relay Actuator Stuck
B100C-13	Front Left Window Up Control Circuit Open
B100C-71	Front Left Window Up Control Circuit Actuator Stuck
B100D-13	Front Left Window Down Control Circuit Open
B100D-71	Front Left Window Down Control Circuit Actuator Stuck
B100E-13	Front Right Window Up Control Circuit Open
B100E-71	Front Right Window Up Control Circuit Actuator Stuck
B100F-13	Front Right Window Down Control Circuit Open
B100F-71	Front Right Window Down Control Circuit Actuator Stuck
B1010-13	Rear Left Window Up Control Circuit Open
B1010-71	Rear Left Window Up Control Circuit Actuator Stuck
B1011-13	Rear Left Window Down Control Circuit Open
B1011-71	Rear Left Window Down Control Circuit Actuator Stuck
B1012-13	Rear Right Window Up Control Circuit Open
B1012-71	Rear Right Window Up Control Circuit Actuator Stuck
B1013-13	Rear Right Window Down Control Circuit Open
B1013-71	Rear Right Window Down Control Circuit Actuator Stuck

DTC	B100D-71	Front Left Window Down Control Circuit Actuator Stuck
DTC	B100D-13	Front Left Window Down Control Circuit Open
DTC	B100C-71	Front Left Window Up Control Circuit Actuator Stuck
DTC	B100C-13	Front Left Window Up Control Circuit Open
DTC	B1029-71	FL Window Relay Actuator Stuck
DTC	B1022-71	FL Window Button Stuck Circuit Actuator Stuck

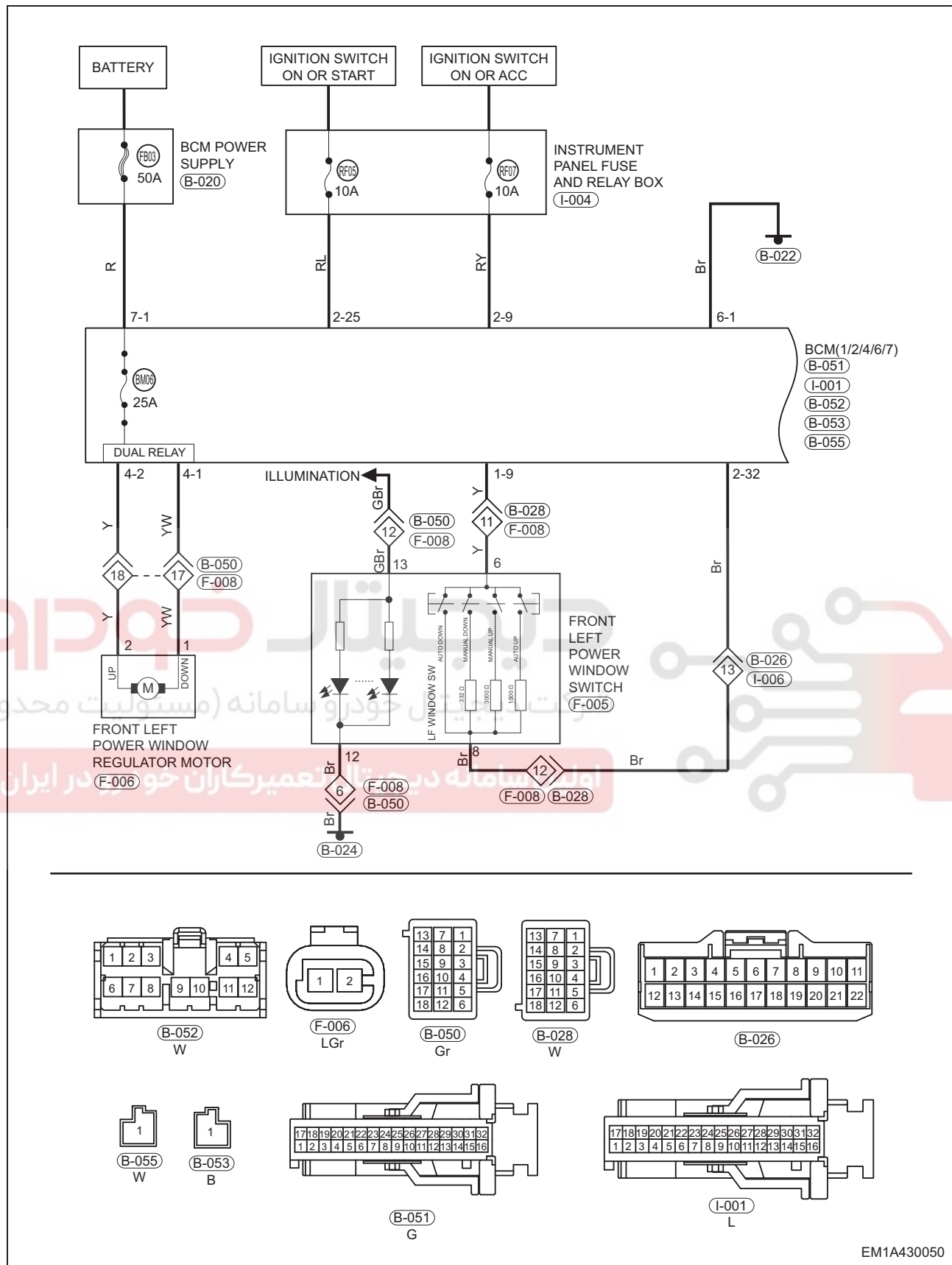
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44 - WINDSHIELD/WINDOW GLASS



Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Possible Cause
B100D-71	Front Left Window Down Control Circuit Actuator Stuck	Ignition switch ON	• Front left door glass regulating switch • Power glass regulator assembly • Wire harness or connector • Body Control Module (BCM)
B100D-13	Front Left Window Down Control Circuit Open		
B100C-71	Front Left Window Up Control Circuit Actuator Stuck		
B100C-13	Front Left Window Up Control Circuit Open		
B1029-71	FL Window Relay Actuator Stuck		
B1022-71	FL Window Button Stuck Circuit Actuator Stuck		

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in BCM.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 44-13](#)).

 CAUTION

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

44 - WINDSHIELD/WINDOW GLASS

Diagnosis Procedure

1

Perform Active Test of window system using X-431 3G diagnostic tester

NG

Check BCM, front left door glass regulator and connected wire harnesses

OK

Check BCM, front left door glass regulating switch and connected wire harnesses

2

Read datastream of window system using X-431 3G diagnostic tester

NG

Check BCM, front left door glass regulating switch and connected wire harnesses

OK

Check BCM, front left door glass regulator and connected wire harnesses

3

Check front left door glass regulating switch

- Remove front left door glass regulating switch from malfunctioning vehicle, then install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation of front left door glass regulating switch.

44

NG

Replace front left door glass regulating switch

OK

4

Check front left door power glass regulator

- Remove front left door power glass regulator from malfunctioning vehicle, then install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation of front door power glass regulator.

NG

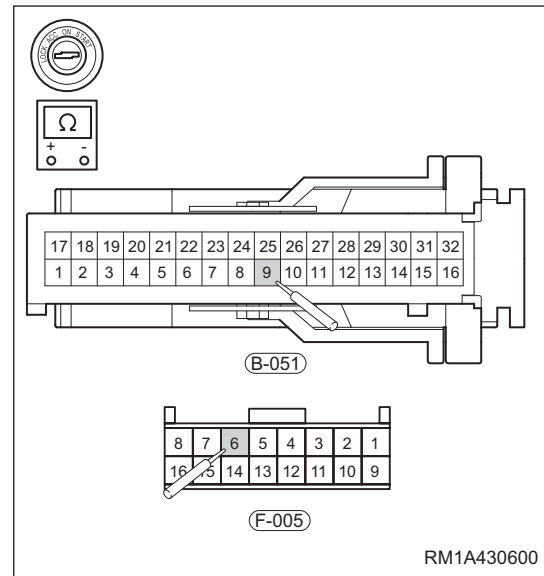
Replace front left door glass regulator

OK

5**Check wire harness and connector (front left door glass regulating switch - BCM)**

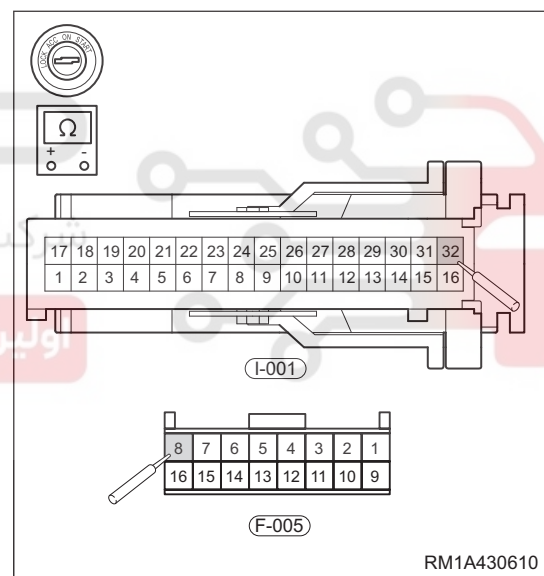
- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connectors B-051, I-001 and F-005.
- Using a digital multimeter, check for continuity between body wire harness connectors B-051 and F-005 according to table below.

Multimeter Connection	Condition	Specified Condition
B-051 (09) - F-005 (06)	Always	Continuity



- Using a digital multimeter, check for continuity between body wire harness connectors I-001 and F-005 according to table below.

Multimeter Connection	Condition	Specified Condition
I-001 (32) - F-005 (08)	Always	Continuity

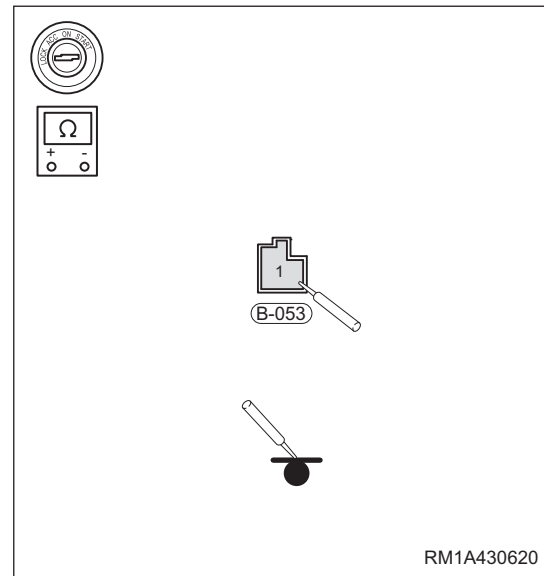


44 - WINDSHIELD/WINDOW GLASS

6**Check BCM ground wire harness**

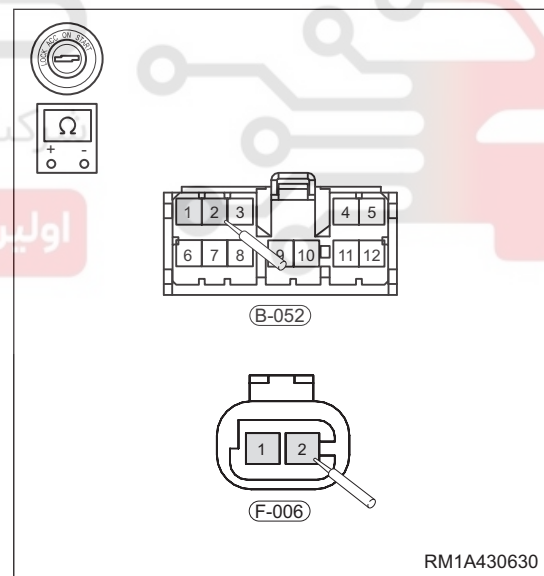
- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the BCM wire harness connector B-053.
- Using a digital multimeter, check for continuity between BCM wire harness connector B-053 and body ground according to table below.

Multimeter Connection	Condition	Specified Condition
B-053 (1) - Body ground	Always	Continuity

**7****Check wire harness and connector of front left door and body (BCM - front left door glass regulator)**

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connector B-052 and front left door wire harness connector F-006.
- Using a digital multimeter, check for continuity between connectors B-052 and F-006 according to table below.

Multimeter Connection	Condition	Specified Condition
B-052 (2) - F-006 (2)	Always	Continuity
B-052 (1) - F-006 (1)	Always	Continuity

NG**Repair or replace wire harness or connector****OK****8****Reconfirm DTCs**

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

- f. Turn ignition switch to ON.
- g. Use X-431 3G diagnostic tester (the latest software) to read DTCs stored in Body Control Module (BCM) again.

Result	Proceed to
B100C-18, B100C-19, B100C-71, B100D-18, B100D-19 and B100D-71 are output	NG
No DTC is output	OK

NG

Replace Body Control Module (BCM)

OK

System is normal

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44 - WINDSHIELD/WINDOW GLASS

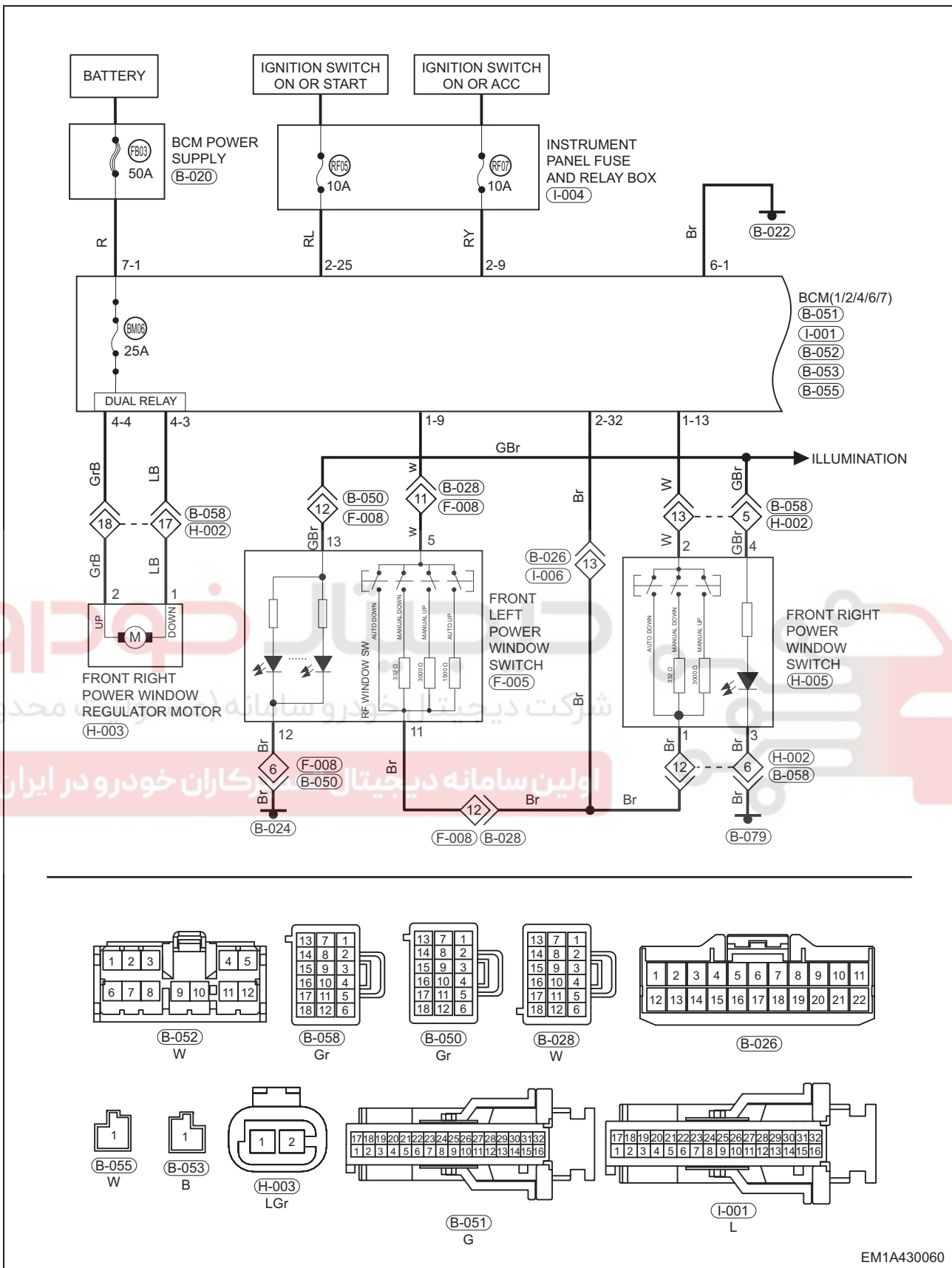
DTC	B1023-71	FR Window Button Stuck Circuit Actuator Stuck
DTC	B1026-71	Passenger FR Window Button Stuck Circuit Actuator Stuck
DTC	B102A-71	FR Window Relay Actuator Stuck
DTC	B100E-13	Front Right Window Up Control Circuit Open
DTC	B100E-71	Front Right Window Up Control Circuit Actuator Stuck
DTC	B100F-13	Front Right Window Down Control Circuit Open
DTC	B100F-71	Front Right Window Down Control Circuit Actuator Stuck

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Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1023-71	FR Window Button Stuck Circuit Actuator Stuck	Ignition switch ON	• Front right door glass regulating switch • Power glass regulator assembly • Wire harness or connector • Body Control Module (BCM)
B1026-71	Passenger FR Window Button Stuck Circuit Actuator Stuck		
B102A-71	FR Window Relay Actuator Stuck		
B100E-13	Front Right Window Up Control Circuit Open		
B100E-71	Front Right Window Up Control Circuit Actuator Stuck		
B100F-13	Front Right Window Down Control Circuit Open		
B100F-71	Front Right Window Down Control Circuit Actuator Stuck		

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in BCM.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 44-13](#)).

 CAUTION

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

Diagnosis Procedure

1 Perform Active Test of window system using X-431 3G diagnostic tester

NG

Check BCM, front right door glass regulator and connected wire harnesses

OK

Check BCM, front right door glass regulating switch and connected wire harnesses

2 Read datastream of window system using X-431 3G diagnostic tester

NG

Check BCM, front right door glass regulating switch and connected wire harnesses

OK

Check BCM, front right door glass regulator and connected wire harnesses

3 Check power glass regulating switch

- Remove front right door glass regulating switch from malfunctioning vehicle, then install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation of power glass regulating switch.

NG

Replace power glass regulating switch

OK

4 Check front right door power glass regulator

- Remove front right door power glass regulator from malfunctioning vehicle, then install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation of front right door power glass regulator.

NG

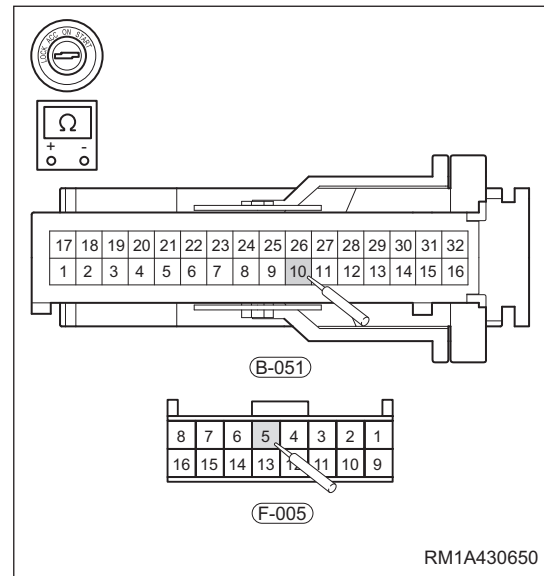
Replace front right door power glass regulator

OK

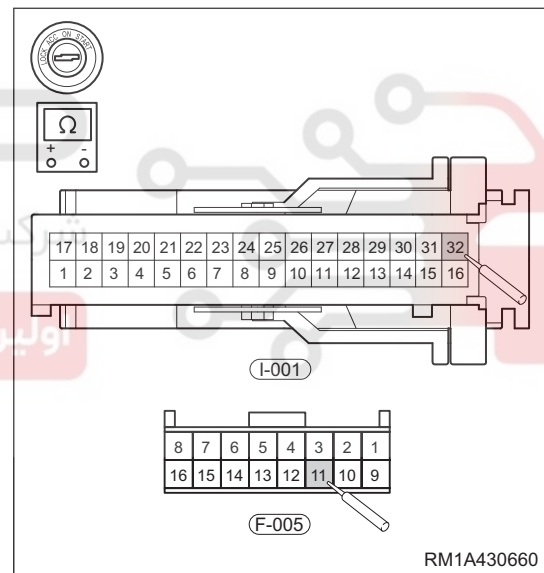
5**Check wire harness and connector (front left door glass regulating switch - BCM)**

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connectors F-005, B-051 and I-001.
- Using a digital multimeter, check for continuity between BCM connectors B-051, I-001 and left door glass regulator connector F-005 according to table below.

Multimeter Connection	Condition	Specified Condition
B-051 (10) - F-005 (05)	Always	Continuity



Multimeter Connection	Condition	Specified Condition
I-001 (32) - F-005 (11)	Always	Continuity

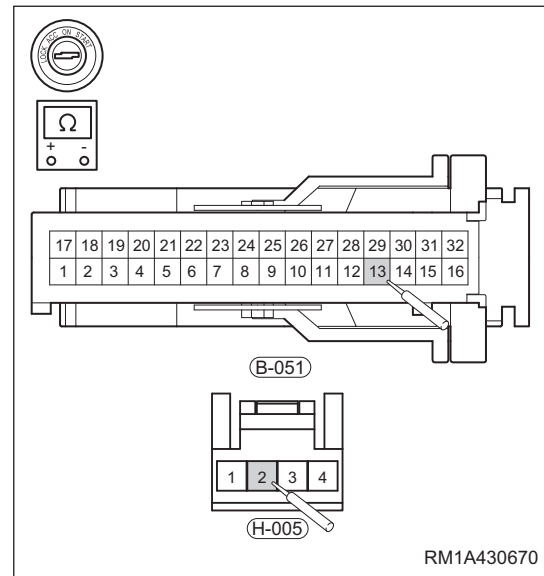


6

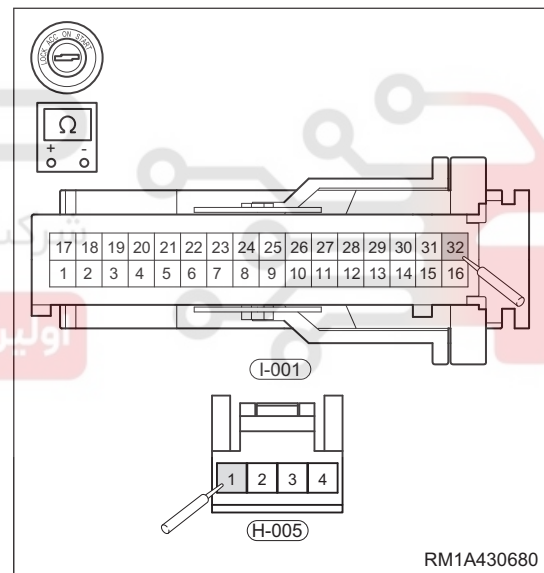
Check wire harness and connector (front right door glass regulating switch - BCM)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect wire harness connectors H-005, B-051 and I-001.
- Using a digital multimeter, check for continuity between BCM connectors B-051, I-001 and front right door glass regulating switch connector H-005 according to table below.

Multimeter Connection	Condition	Specified Condition
B-051 (13) - H-005 (02)	Always	Continuity



Multimeter Connection	Condition	Specified Condition
I-001 (32) - H-005 (01)	Always	Continuity



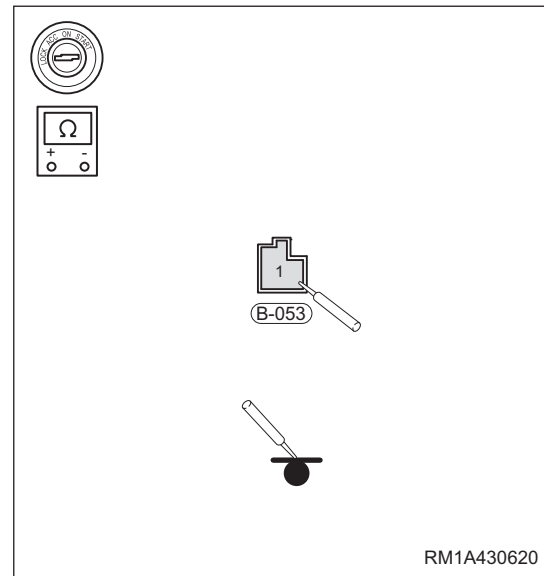
44 - WINDSHIELD/WINDOW GLASS

7

Check BCM ground wire harness

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

Multimeter Connection	Condition	Specified Condition
B-053 (1) - Body ground	Always	Continuity

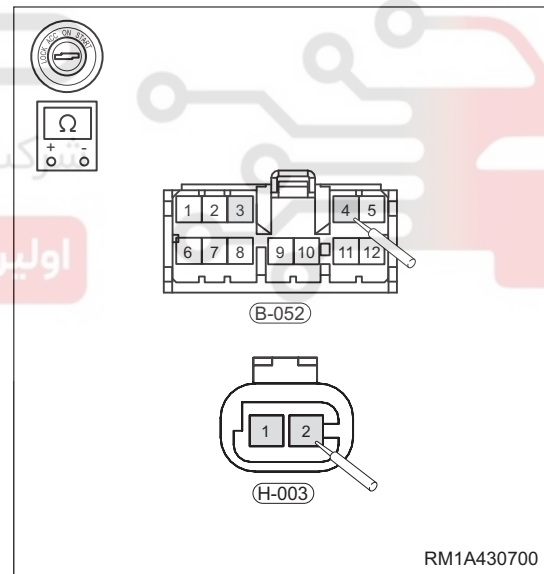


8

Check wire harness and connector (BCM - front right door glass regulator)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect wire harness connectors B-052, H-003.
- Using a digital multimeter, check for continuity between BCM connector B-052 and front right door wire harness connector H-003 according to table below.

Multimeter Connection	Condition	Specified Condition
B-052 (4) - H-003 (02)	Always	Continuity
B-052 (3) - H-003 (01)	Always	Continuity



NG

Repair or replace wire harness and connector

OK

9

Reconfirm DTCs

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

- g. Use X-431 3G diagnostic tester (the latest software) to read DTCs stored in Body Control Module (BCM) again.

Result	Proceed to
B1023-71, B1026-71, B102A-71, B100E-13, B100E-71, B100F-13 and B100F-71 are output	NG
No DTC is output	OK

NG

Replace Body Control Module (BCM)

OK

System is normal

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



44 - WINDSHIELD/WINDOW GLASS

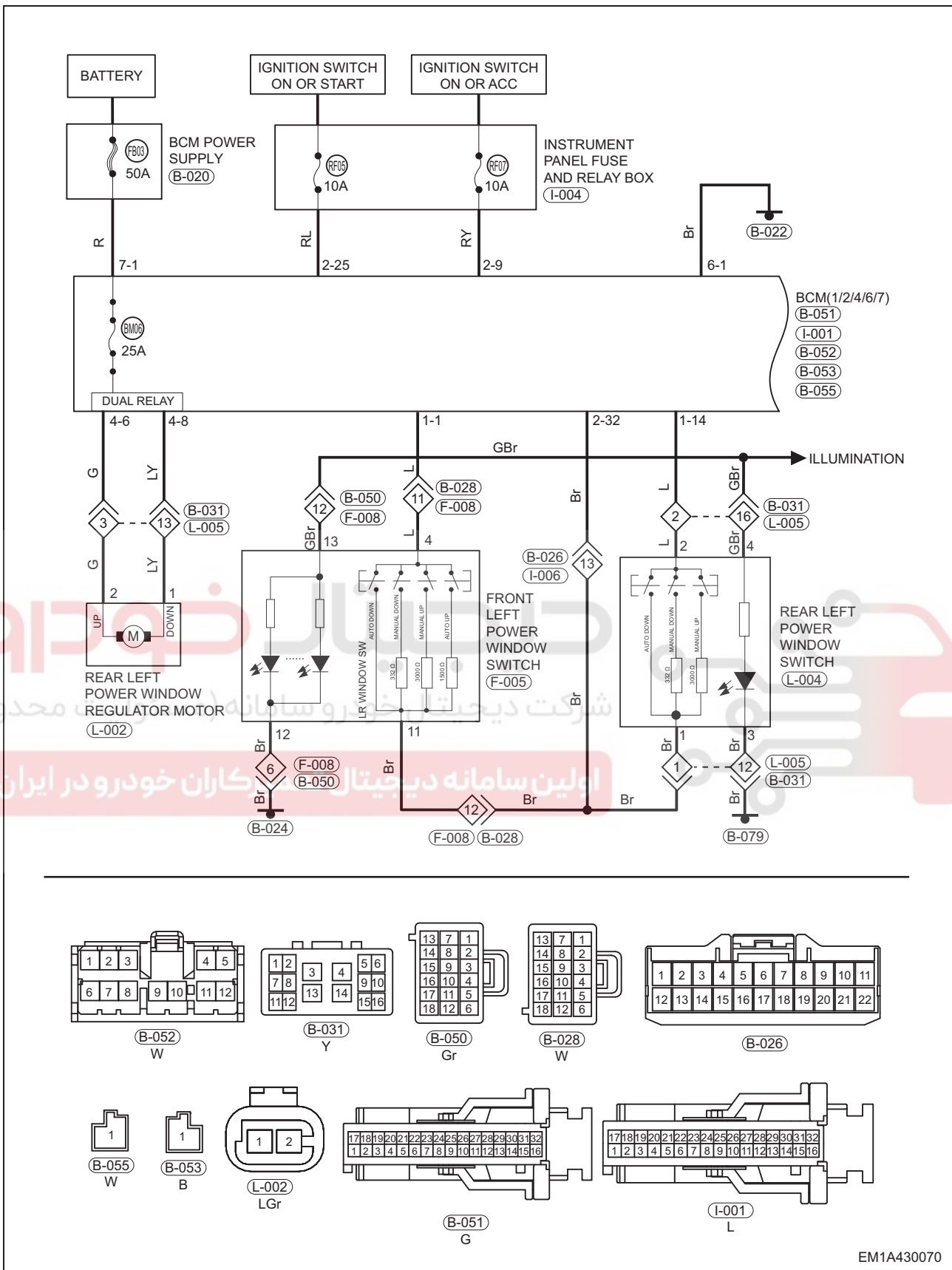
DTC	B1033-71	RL Window Button Stuck Circuit Actuator Stuck
DTC	B1034-71	Passenger RL Window Button Stuck Circuit Actuator Stuck
DTC	B102B-71	RL Window Relay Actuator Stuck
DTC	B1010-13	Rear Left Window Up Control Circuit Open
DTC	B1010-71	Rear Left Window Up Control Circuit Actuator Stuck
DTC	B1011-13	Rear Left Window Down Control Circuit Open
DTC	B1011-71	Rear Left Window Down Control Circuit Actuator Stuck

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Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1033-71	RL Window Button Stuck Circuit Actuator Stuck	Ignition switch ON	• Glass regulating switch • Power glass regulator assembly • Wire harness or connector • Body Control Module (BCM)
B1034-71	Passenger RL Window Button Stuck Circuit Actuator Stuck		
B102B-71	RL Window Relay Actuator Stuck		
B1010-13	Rear Left Window Up Control Circuit Open		
B1010-71	Rear Left Window Up Control Circuit Actuator Stuck		
B1011-13	Rear Left Window Down Control Circuit Open		
B1011-71	Rear Left Window Down Control Circuit Actuator Stuck		

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in BCM.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 44-13](#)).

 CAUTION

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

Diagnosis Procedure

1

Perform Active Test of window system using X-431 3G diagnostic tester

NG

Check BCM, rear left door glass regulator and connected wire harnesses

OK

Check BCM, rear left door glass regulating switch and connected wire harnesses

2

Read datastream of window system using X-431 3G diagnostic tester

NG

Check BCM, rear left door glass regulating switch and connected wire harnesses

OK

Check BCM, rear left door glass regulator and connected wire harnesses

3

Check power glass regulating switch

- Remove rear left power glass regulating switch from malfunctioning vehicle, then install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation of power glass regulating switch.

NG

Replace power glass regulating switch

OK

44

4

Check rear left door power glass regulator

- Remove rear left door power glass regulator from malfunctioning vehicle, then install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation of front door power glass regulator.

NG

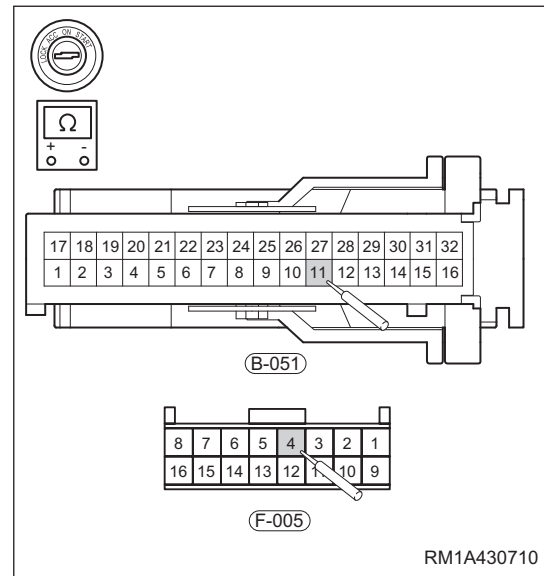
Replace rear left door power glass regulator

OK

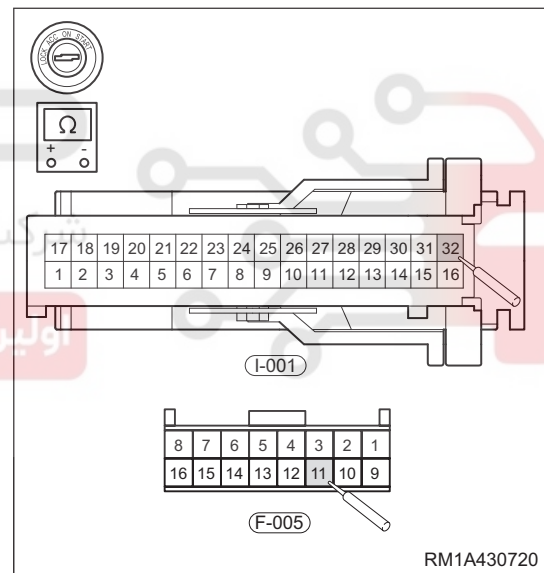
5**Check wire harness and connector (front left door glass regulating switch - BCM)**

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connectors F-005, B-051 and I-001.
- Using a digital multimeter, check for continuity between BCM connectors B-051, I-001 and front left door glass regulator connector F-005 according to table below.

Multimeter Connection	Condition	Specified Condition
B-051 (11) - F-005 (04)	Always	Continuity



Multimeter Connection	Condition	Specified Condition
I-001 (32) - F-005 (11)	Always	Continuity

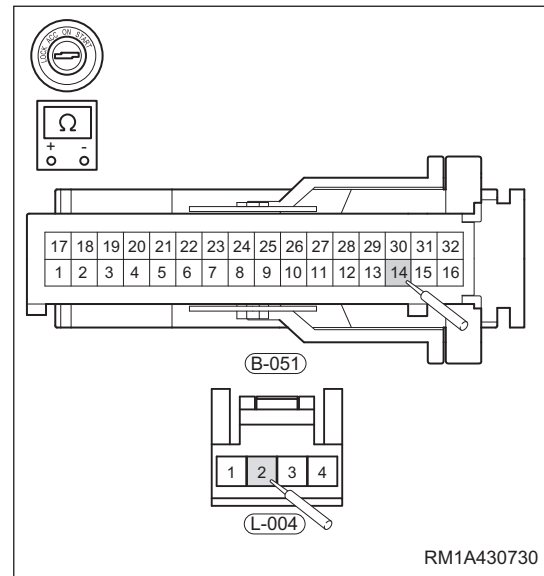


6

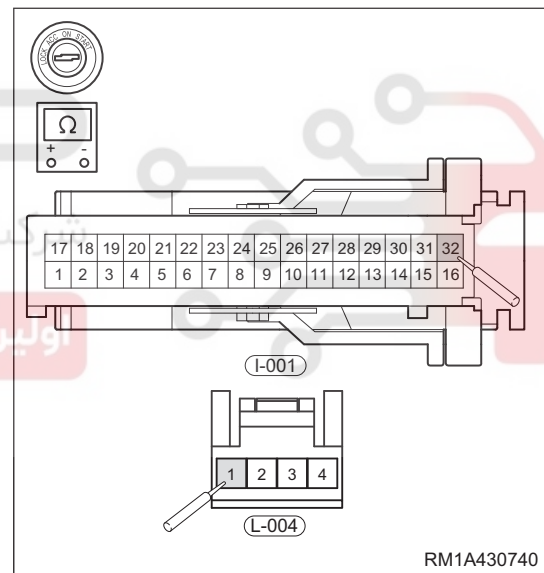
Check wire harness and connector (rear left door glass regulating switch - BCM)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect wire harness connectors L-004, B-051 and I-001.
- Using a digital multimeter, check for continuity between BCM connectors B-051, I-001 and rear left door glass regulating switch connector L-004 according to table below.

Multimeter Connection	Condition	Specified Condition
B-051 (14) - L-004 (02)	Always	Continuity



Multimeter Connection	Condition	Specified Condition
I-001 (32) - L-004 (01)	Always	Continuity

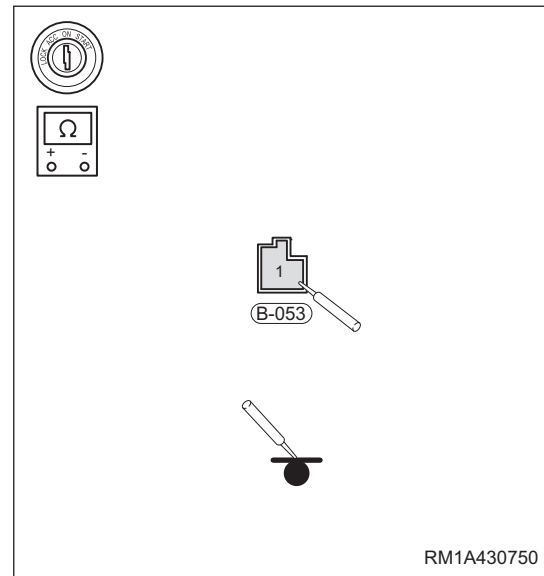


44 - WINDSHIELD/WINDOW GLASS

7**Check BCM ground wire harness**

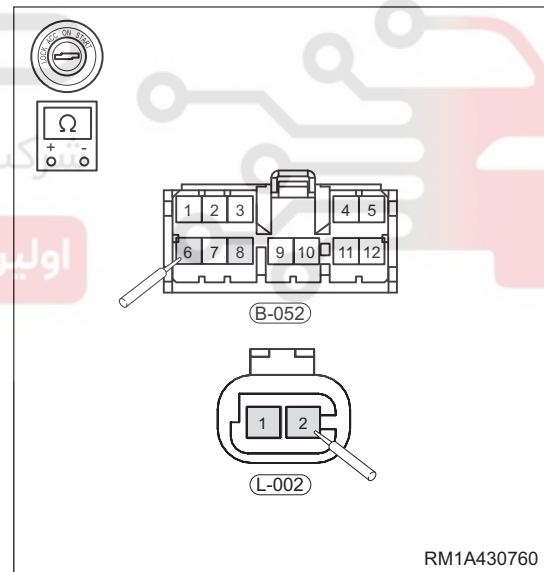
- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the BCM connector B-053.
- Using a digital multimeter, check for continuity between BCM connector B-053 and body ground according to table below.

Multimeter Connection	Condition	Specified Condition
B-053 (1) - Body ground	Always	Continuity

**8****Check wire harness and connector (BCM - rear left door glass regulator)**

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect wire harness connectors B-052, L-002.
- Using a digital multimeter, check for continuity between wire harness connectors B-052 and L-002 according to table below.

Multimeter Connection	Condition	Specified Condition
B-052 (6) - L-002 (02)	Always	Continuity
B-052 (8) - L-002 (01)	Always	Continuity

**NG****Repair or replace wire harness and connector****OK****9****Reconfirm DTCs**

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

- g. Use X-431 3G diagnostic tester (the latest software) to read DTCs stored in Body Control Module (BCM) again.

Result	Proceed to
B1033-71, B1034-71, B102B-71, B1010-13, B1010-71, B1011-13 and B1011-71 are output	NG
No DTC is output	OK

NG

Replace Body Control Module (BCM)

OK

System is normal

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



44 - WINDSHIELD/WINDOW GLASS

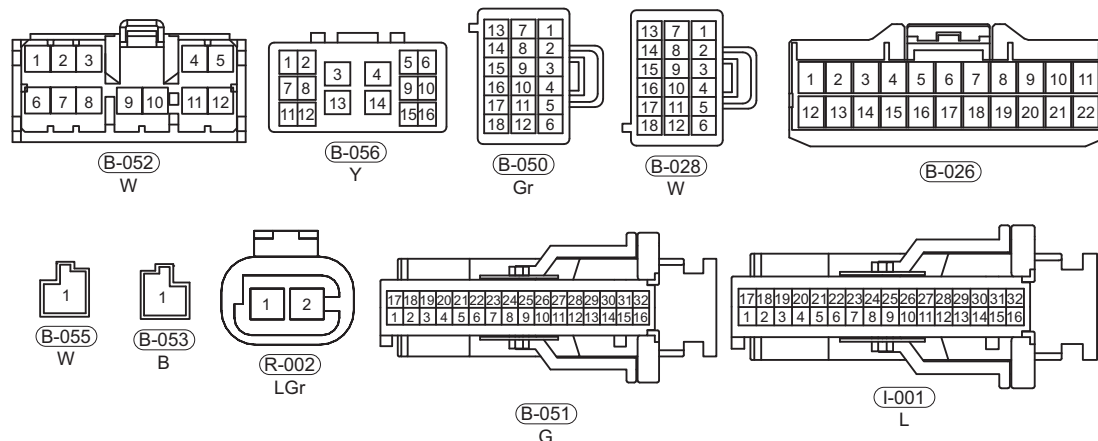
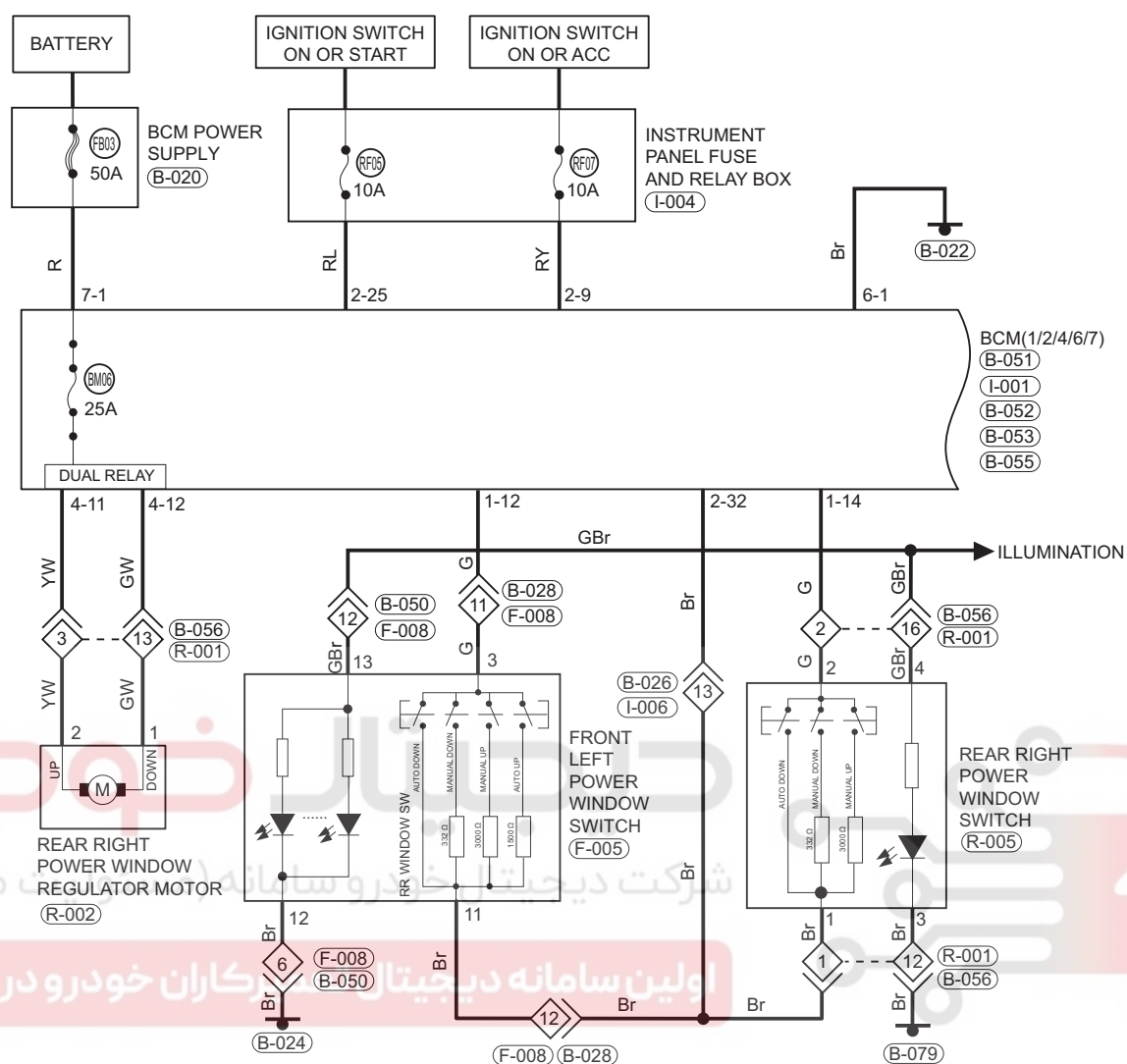
DTC	B1025-71	RR Window Button Stuck Circuit Actuator Stuck
DTC	B1028-71	Passenger RR Window Button Stuck Circuit Actuator Stuck
DTC	B102C-71	RR Window Relay Actuator Stuck
DTC	B1012-13	Rear Right Window Up Control Circuit Open
DTC	B1012-71	Rear Right Window Up Control Circuit Actuator Stuck
DTC	B1013-13	Rear Right Window Down Control Circuit Open
DTC	B1013-71	Rear Right Window Down Control Circuit Actuator Stuck

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اولین سامانه دیجیتال تعمیرکاران خودرو در ایران





EM1A430080

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1025-71	RR Window Button Stuck Circuit Actuator Stuck	Ignition switch ON	- Glass regulating switch - Power glass regulator assembly - Wire harness or connector - Body Control Module (BCM)
B1028-71	RR Window Button Stuck Circuit Actuator Stuck		
B102C-71	RR Window Relay Actuator Stuck		
B1012-13	Rear Right Window Up Control Circuit Open		
B1012-71	Rear Right Window Up Control Circuit Actuator Stuck		
B1013-13	Rear Right Window Down Control Circuit Open		
B1013-71	Rear Right Window Down Control Circuit Actuator Stuck		

DTC Confirmation Procedure

Confirm that battery voltage is between 11 V and 14 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in BCM.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent ([See page 44-13](#)).

 CAUTION

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

Diagnosis Procedure

1

Perform Active Test of window system using X-431 3G diagnostic tester

NG

Check BCM, rear right door glass regulator and connected wire harnesses

OK

Check BCM, rear right door glass regulating switch and connected wire harnesses

2

Read datastream of window system using X-431 3G diagnostic tester

NG

Check BCM, front right door glass regulating switch and connected wire harnesses

OK

Check BCM, front right door glass regulator and connected wire harnesses

3

Check power glass regulating switch

- Remove rear right glass regulating switch from malfunctioning vehicle, then install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation of power glass regulating switch.

NG

Replace power glass regulating switch

OK

4

Check rear right door power glass regulator

- Remove rear right door power glass regulator from malfunctioning vehicle, then install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation of rear right door power glass regulator.

NG

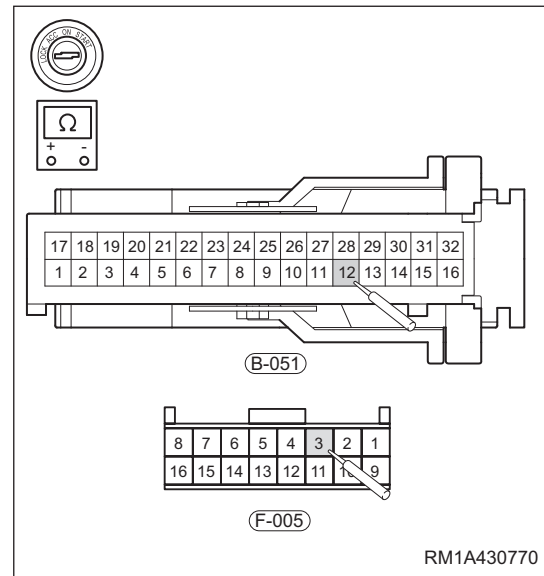
Replace rear right door power glass regulator

OK

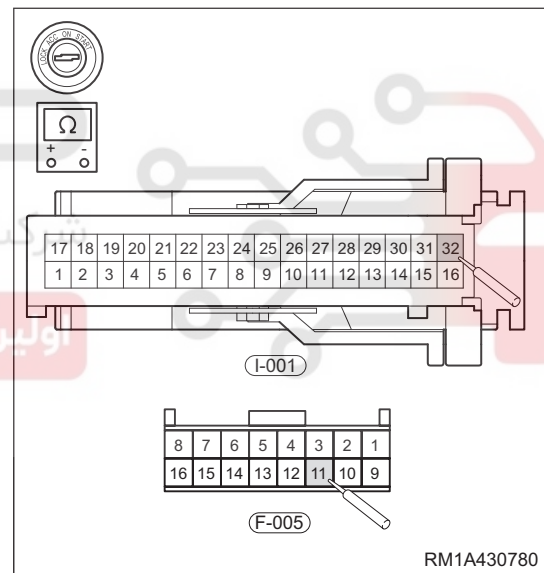
5**Check wire harness and connector (front left door glass regulating switch - BCM)**

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connectors F-005, B-051 and I-001.
- Using a digital multimeter, check for continuity between BCM connectors B-051, I-001 and front left door glass regulator connector F-005 according to table below.

Multimeter Connection	Condition	Specified Condition
B-051 (12) - F-005 (03)	Always	Continuity



Multimeter Connection	Condition	Specified Condition
I-001 (32) - F-005 (11)	Always	Continuity

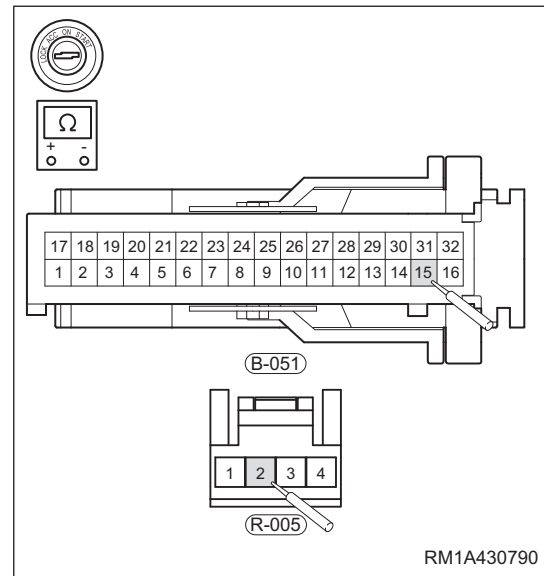


6

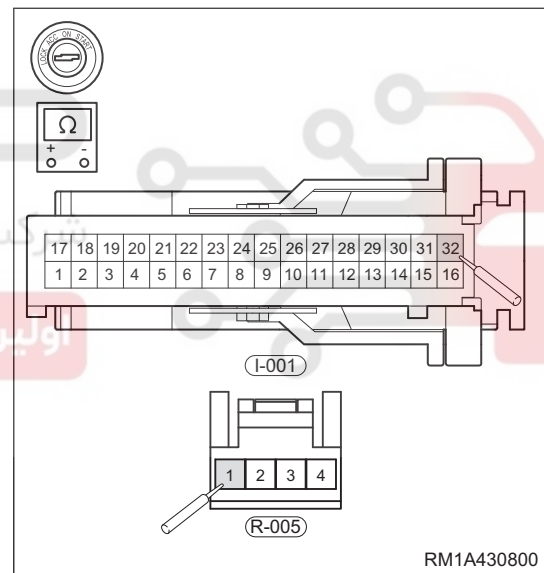
Check wire harness and connector (rear right door glass regulating switch - BCM)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect wire harness connectors R-005, B-051 and I-001.
- Using a digital multimeter, check for continuity between BCM connectors B-051, I-001 and rear right door glass regulating switch connector R-005 according to table below.

Multimeter Connection	Condition	Specified Condition
B-051 (15) - R-005 (02)	Always	Continuity



Multimeter Connection	Condition	Specified Condition
I-001 (32) - R-005 (01)	Always	Continuity



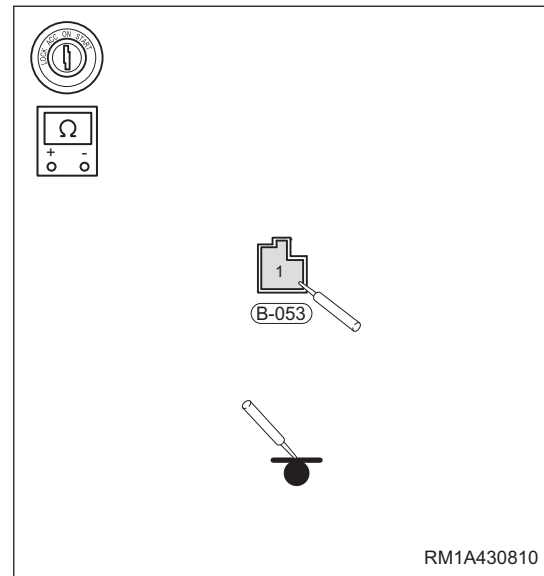
44 - WINDSHIELD/WINDOW GLASS

7

Check BCM ground wire harness

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

Multimeter Connection	Condition	Specified Condition
B-053 (1) - Body ground	Always	Continuity

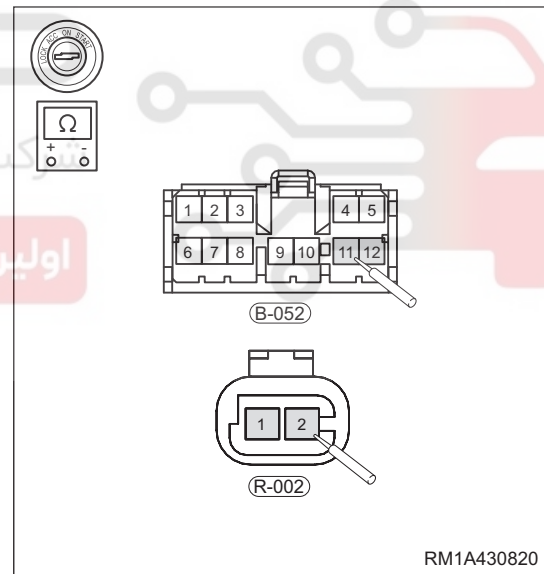


8

Check wire harness and connector (BCM - rear right door glass regulator)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect wire harness connectors B-052 and R-002.
- Using a digital multimeter, check for continuity between wire harness connectors B-052 and R-002 according to table below.

Multimeter Connection	Condition	Specified Condition
B-052 (11) - R-002 (02)	Always	Continuity
B-052 (12) - R-002 (01)	Always	Continuity



NG

Repair or replace wire harness and connector

OK

9

Reconfirm DTCs

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

- g. Use X-431 3G diagnostic tester (the latest software) to read DTCs stored in Body Control Module (BCM) again.

Result	Proceed to
B1025-71, B1028-71, B102C-71, B1012-13, B1012-71, B1013-13 and B1013-71 are output	NG
No DTC is output	OK

NG

Replace Body Control Module (BCM)

OK

System is normal

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



ON-VEHICLE SERVICE

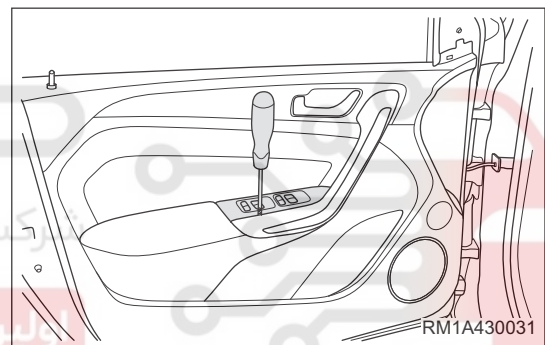
Front Left Door Glass Regulating Switch

Removal

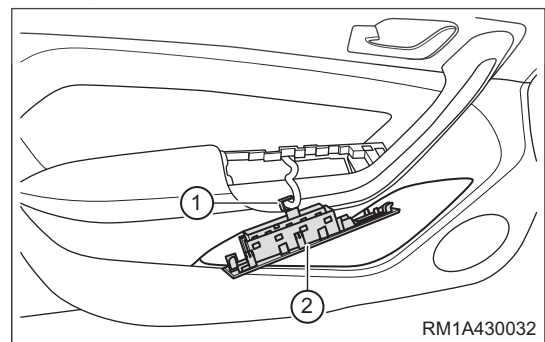
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing front left door glass regulating switch.
- Appropriate force should be applied, when removing front left door glass regulating switch. Be careful not to operate roughly.
- Try to prevent front door inner protector assembly from being scratched, when removing front left door glass regulating switch.

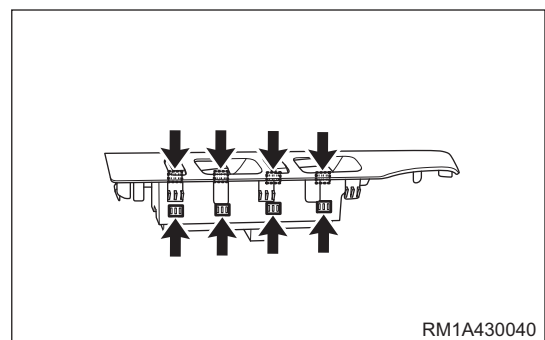
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front left door glass regulating switch.
 - a. Using a screwdriver wrapped with protective tape, pry up front left door glass regulating switch assembly.



- b. Disconnect the front left door glass regulating switch connector (1).
- c. Remove the front left door glass regulating switch assembly (2).



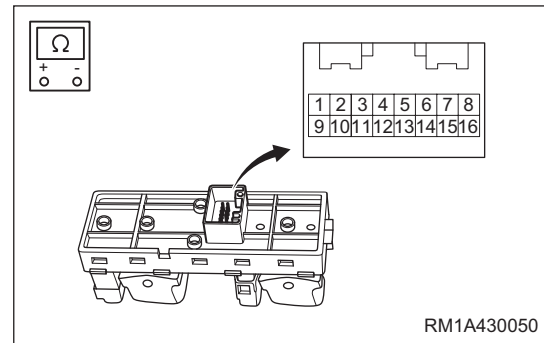
- d. Using a screwdriver wrapped with protective tape, detach claws (arrow) from front left door glass regulating switch assembly and remove front left door glass regulating switch.



Inspection

1. Check the front left door glass regulating switch.
 - a. Using a digital multimeter, check for continuity between terminals of front left door glass regulating switch according to table below.

Component	Multimeter Connection	Switch Condition	Specified Condition
Front left door glass regulating switch	6 - 8	UP	3000 Ω
		OFF	No continuity
	6 - 8	DOWN	332 Ω
		OFF	No continuity
Front right door glass regulating switch	5 - 11	UP	3000 Ω
		OFF	No continuity
	5 - 11	DOWN	332 Ω
		OFF	No continuity
Rear left door glass regulating switch	4 - 11	UP	3000 Ω
		OFF	No continuity
	4 - 11	DOWN	332 Ω
		OFF	No continuity
Rear right door glass regulating switch	3 - 11	UP	3000 Ω
		OFF	No continuity
	3 - 11	DOWN	332 Ω
		OFF	No continuity
Power window lock switch	7 - 11	Pushed	Continuity
		Pushed again	No continuity

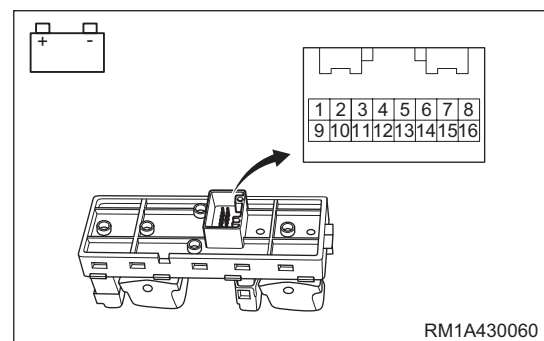


If result is not as specified, replace front left door glass regulating switch.

2. Check the front left door glass regulating switch illumination.
 - a. Apply battery voltage to terminals of front left door glass regulating switch connector, and check operation of front left door glass regulating switch according to table below.

Measurement Condition		Specified Condition
Battery positive (+)	Battery negative (-)	
13	12	Back light ON

If result is not as specified, replace front left door glass regulating switch.



Installation

Installation is in the reverse order of removal.

CAUTION

- Check if connector is installed in place, when installing front left door glass regulating switch.
- Check if front left door glass regulating switch can be operated normally after installation.

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Front Door Weather Bar

Removal

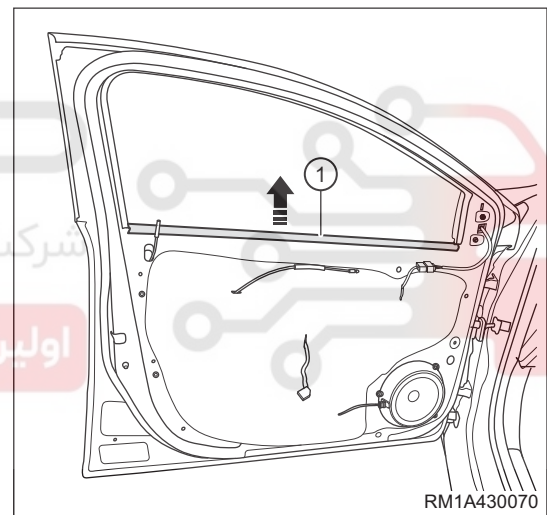
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

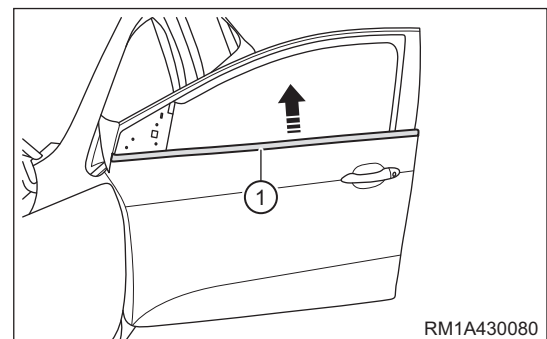
- Be sure to wear safety equipment to prevent accidents, when removing front door weather bars.
- Appropriate force should be applied when removing front door weather bars. Be careful not to operate roughly.
- Try to prevent body paint surface from being scratched, when removing front door weather bars.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front left door inner weather bar.
 - a. Remove the front left door inner protector assembly ([See page 48-19](#)).
 - b. Using an interior crow plate, remove front door inner weather bar (1) from trough in direction of arrow as shown in illustration.



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4. Remove the front left door outer weather bar.
 - a. Remove the outside rear view mirror assembly ([See page 45-10](#)).
 - b. Using an interior crow plate, remove front door outer weather bar (1) from trough in direction of arrow as shown in illustration.



Installation

Installation is in reverse order of removal.

Front Door Glass Upper Run

Removal

HINT:

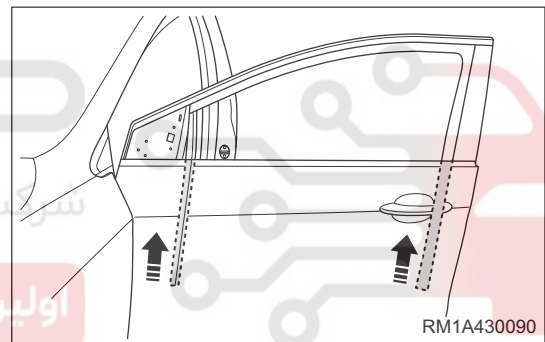
- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

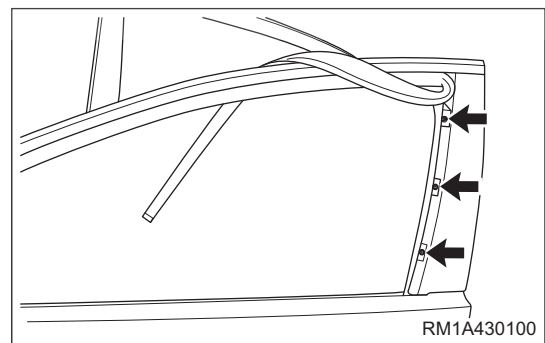
- Be sure to wear safety equipment to prevent accidents, when removing front door glass assembly.
- Appropriate force should be applied when removing front door glass assembly. Be careful not to operate roughly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front left door inner protector assembly (See page 48-19).
4. Remove the left outside rear view mirror assembly (See page 45-10).
5. Remove the front left door outer weather bar (See page 44-51).
6. Release the front left door glass upper run.

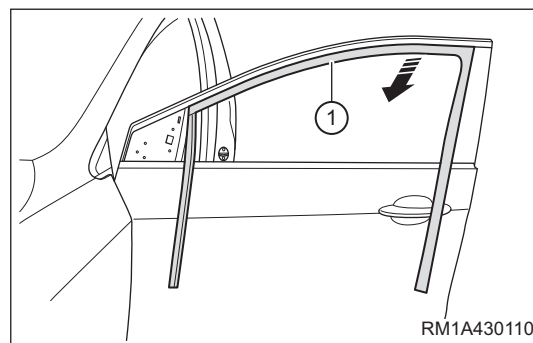
- a. Lower front left door glass assembly and pull lower parts (arrow) of front left door glass upper run out from trough.



- b. Remove 3 fixing screws (arrow), and remove front left door cover plate. (Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)



- c. Remove front left door glass upper run (1) from trough in direction of arrow as shown in illustration.



Installation

Installation is in reverse order of removal.

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Front Door Glass Assembly

Removal

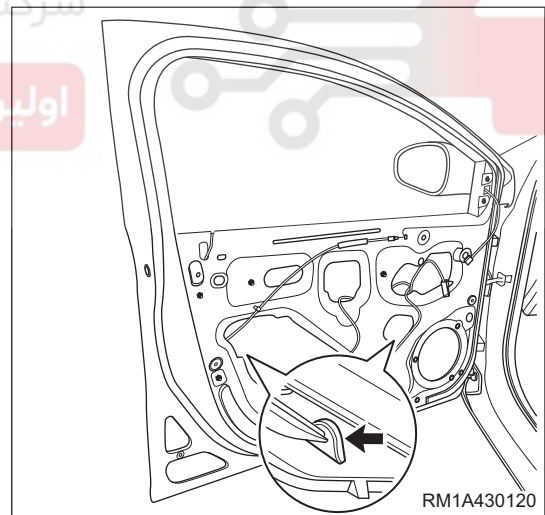
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing front door glass assembly.
- Appropriate force should be applied when removing front door glass assembly. Be careful not to operate roughly.
- Prevent window glass from dropping and becoming damaged, when removing front door glass assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front left door inner protector assembly (See page 48-19).
4. Remove the left outside rear view mirror assembly (See page 45-10).
5. Remove the front left door protective film assembly (See page 48-22).
6. Remove the front left door outer weather bar (See page 44-51).
7. Remove the front left door glass upper run (See page 44-52).
8. Remove the front left door cover plate (See page 44-52).
9. Remove the front left door glass assembly.
 - a. Raise front left door glass assembly to a proper position.
 - b. Using a screwdriver wrapped with protective tape, detach fixing clip (arrow) from front left door glass assembly and remove front left door glass assembly.



Installation

Installation is in the reverse order of removal.

Front Door Glass Rear Guide Rail Assembly

Removal

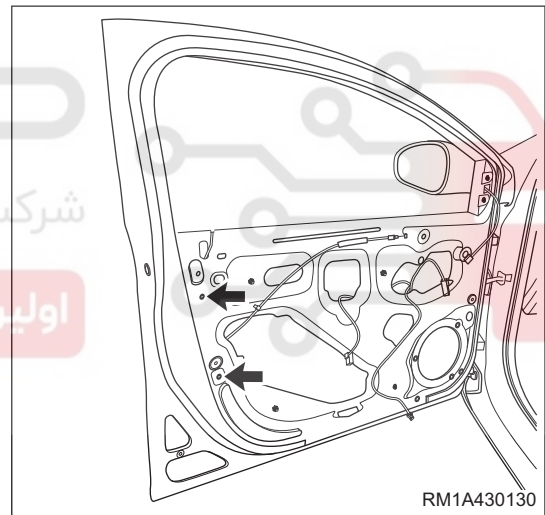
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing front door glass rear guide rail assembly.
- Appropriate force should be applied when removing front door glass rear guide rail assembly. Be careful not to operate roughly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front left door inner protector assembly (See page 48-19).
4. Remove the front left door protective film assembly (See page 48-22).
5. Remove the front left door glass rear guide rail assembly.
 - a. Remove 2 fixing bolts (arrow) from front left door glass rear guide rail assembly and remove front left door glass rear guide rail assembly. (Tightening torque: 7 ± 1 N·m)



44

Installation

Installation is in reverse order of removal.

CAUTION

- After installing front left door glass rear guide rail assembly, make sure that window glass can go up and down smoothly and freely without any vibration, chattering or shock loading, etc.

Front Door Power Glass Regulator

Removal

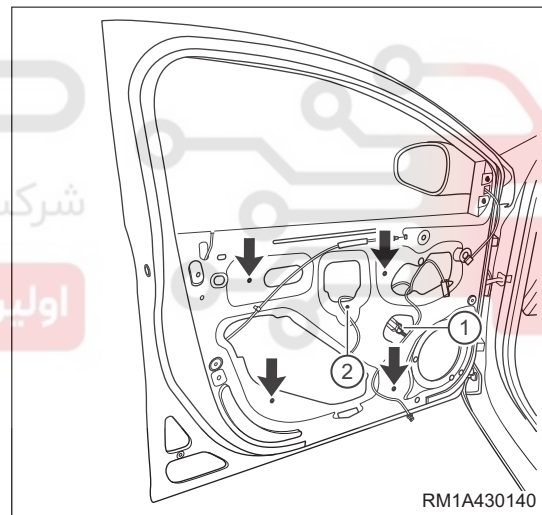
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing front door power glass regulator.
- Appropriate force should be applied when removing front door power glass regulator. Be careful not to operate roughly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front left door inner protector assembly (See page 48-19).
4. Remove the front left door protective film assembly (See page 48-22).
5. Remove the front left door glass assembly (See page 44-54).
6. Remove the front left door power glass regulator.
 - a. Disconnect connector (1) from front left door power glass regulator.
 - b. Remove fixing bolt (2) from front left door power glass regulator.
(Tightening torque: 7 ± 1 N·m)
 - c. Remove 4 fixing nuts (arrow) from front left door power glass regulator and remove front left door power glass regulator assembly.
(Tightening torque: 7 ± 1 N·m)

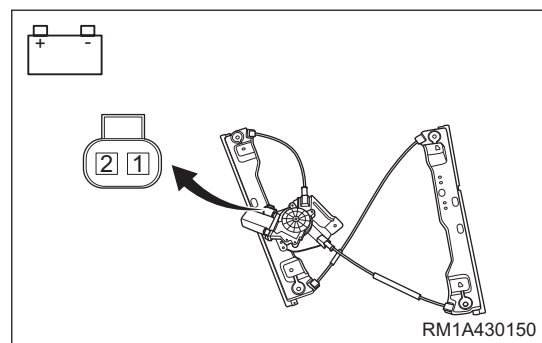


Inspection

1. Check the front door power glass regulator.
 - a. Apply battery voltage to terminals of front door power glass regulator motor connector, and check operation of front door power glass regulator motor according to table below.

Measurement Condition		Specified Condition
Battery positive (+)	Battery negative (-)	
2	1	UP smoothly
1	2	DOWN smoothly

If result is not as specified, replace front door power glass regulator.



Installation

Installation is in reverse order of removal.

CAUTION

- After installing front left door power glass regulator, make sure that window glass can go up and down smoothly and freely without any vibration, chattering or shock loading, etc.

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Power Glass Regulating Switch

Removal

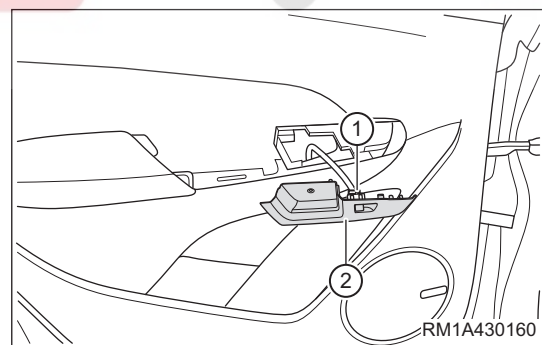
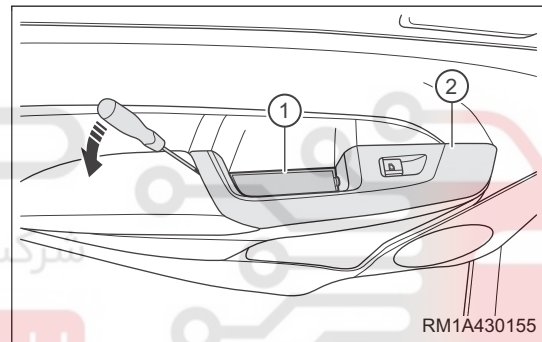
HINT:

- Use same procedures for front right, rear right and rear left sides.
- Procedures listed below are for rear left side.

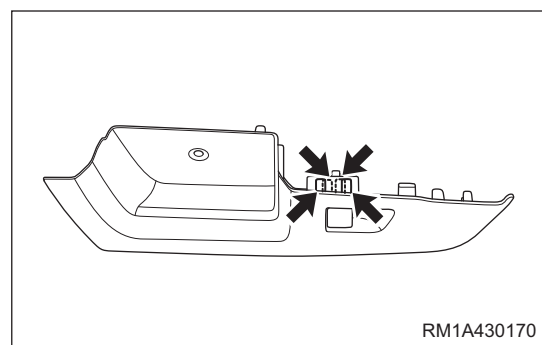
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing power glass regulating switch.
- Appropriate force should be applied when removing power glass regulating switch. Be careful not to operate roughly.
- Try to prevent door inner protector assembly from being scratched, when removing power glass regulating switch.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear left power glass regulating switch.
 - a. Take out rear left door handle box mat (1), and remove fixing bolt from rear left door glass regulating switch assembly with a cross screwdriver. Using a screwdriver wrapped with protective tape, pry up glass regulating switch assembly (2) in direction of arrow.
 - b. Disconnect the power glass regulating switch connector (1).
 - c. Remove the power glass regulating switch assembly (2).



- d. Using a screwdriver wrapped with protective tape, detach 4 claws (arrow) from power glass regulating switch and remove power glass regulating switch.



Inspection

1. Check the power glass regulating switch.
 - a. Using a digital multimeter, check for continuity between terminals of power glass regulating switch according to table below.

Component	Multimeter Connection	Switch Condition	Specified Condition
Front right door glass regulating switch	2 - 1	UP	3000 Ω
		OFF	No continuity
	2 - 1	DOWN	320 Ω
		OFF	No continuity
Rear left door glass regulating switch	2 - 1	UP	3000 Ω
		OFF	No continuity
	2 - 1	DOWN	320 Ω
		OFF	No continuity
Rear right door glass regulating switch	2 - 1	UP	3000 Ω
		OFF	No continuity
	2 - 1	DOWN	320 Ω
		OFF	No continuity

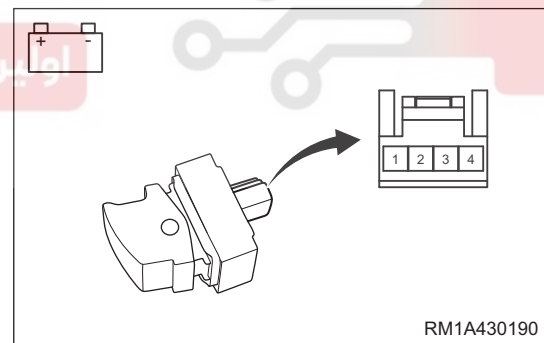
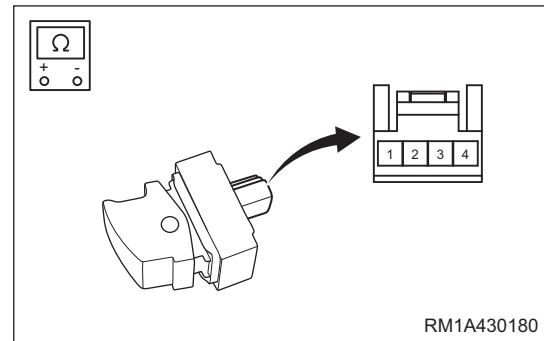
If result is not as specified, replace power glass regulating switch.

2. Check the power glass regulating switch illumination (for rear left door side).

- a. Apply battery voltage to terminals of power glass regulating switch connector, and check operation of power glass regulating switch according to table below.

Measurement Condition		Specified Condition
Battery positive (+)	Battery negative (-)	
4	3	Back light ON

If result is not as specified, replace power glass regulating switch.



Installation

Installation is in the reverse order of removal.

CAUTION

- Check if connector is installed in place, when installing power glass regulating switch.
- Check if power glass regulating switch can be operated normally after installation.

Rear Door Weather Bar

Removal

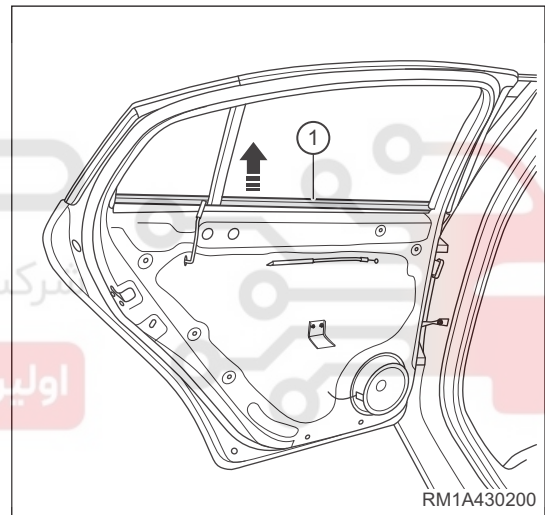
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

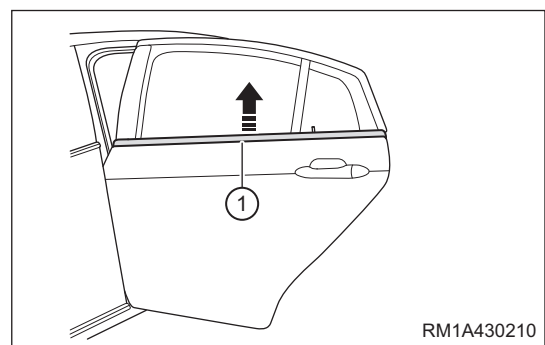
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing rear door weather bars.
- Appropriate force should be applied when removing rear door weather bars. Be careful not to operate roughly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear left door inner weather bar.
 - a. Remove the rear left door inner protector assembly (See page 48-19).
 - b. Using an interior crow plate, remove rear left door inner weather bar (1) from trough in direction of arrow as shown in illustration.



4. Remove the rear left door outer weather bar.
 - a. Using an interior crow plate, remove rear left door outer weather bar (1) from trough in direction of arrow as shown in illustration.



Installation

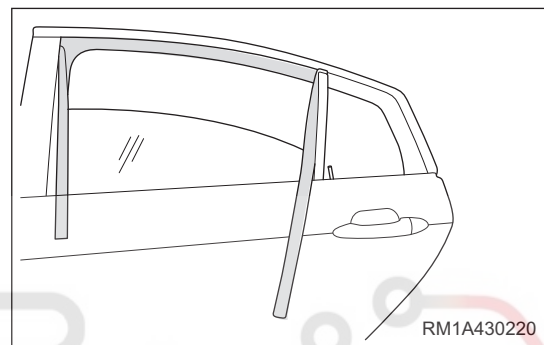
Installation is in reverse order of removal.

Rear Door Glass Assembly

Removal

HINT:

- Use same procedures for right and left sides.
 - Procedures listed below are for left side.
1. Turn off all electrical equipment and the ignition switch.
 2. Disconnect the negative battery cable.
 3. Remove the rear left door inner protector assembly (See page 48-31).
 4. Remove the rear left door metal bracket (See page 48-34).
 5. Remove the rear left door protective film assembly (See page 48-34).
 6. Remove the rear left door weather bar (See page 44-60).
 7. Remove the rear left door glass run.
 - a. Lower rear left door glass assembly to a proper position, and pull rear left door glass run out from trough.

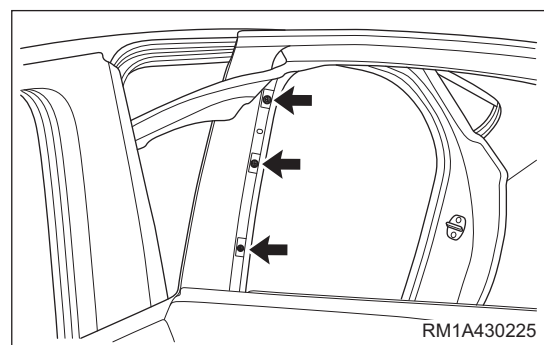


8. Remove the rear left door glass assembly.

CAUTION

- Prevent window glass from dropping and becoming damaged, when removing rear left door glass assembly.

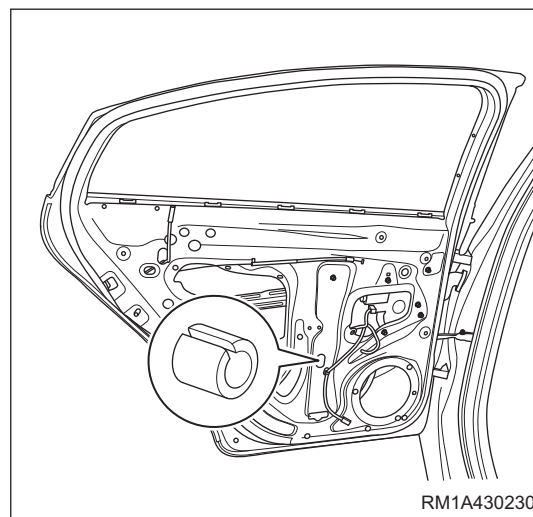
- a. Remove 3 fixing screws (arrow) from rear left door cover plate and remove rear left door cover plate. (Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)



- b. Raise rear left door glass assembly to a proper position.

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- c. Detach outer snap pin from rear left door glass assembly and remove rear left door glass assembly.



RM1A430230

Installation

Installation is in reverse order of removal.

CAUTION

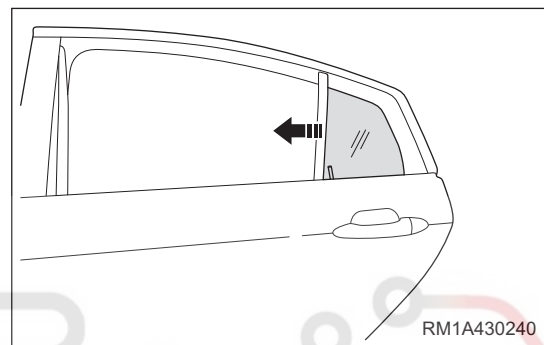
- Prevent window glass from dropping and becoming damaged, when installing rear left door glass assembly.

Triangular Window Glass Assembly

Removal

HINT:

- Use same procedures for right and left sides.
 - Procedures listed below are for left side.
1. Turn off all electrical equipment and the ignition switch.
 2. Disconnect the negative battery cable.
 3. Remove the rear left door weather bar (See page 44-60).
 4. Remove the rear left door protective film assembly (See page 48-34).
 5. Remove the rear left door glass assembly (See page 44-61).
 6. Remove the rear left door glass rear guide rail assembly (See page 44-65).
 7. Remove the triangular window glass assembly.
 - a. Remove triangular window glass assembly in direction of arrow as shown in illustration.



Installation

Installation is in reverse order of removal.

CAUTION

- Prevent window glass from dropping and becoming damaged, when installing rear left door glass assembly.

Rear Door Glass Upper Run

Removal

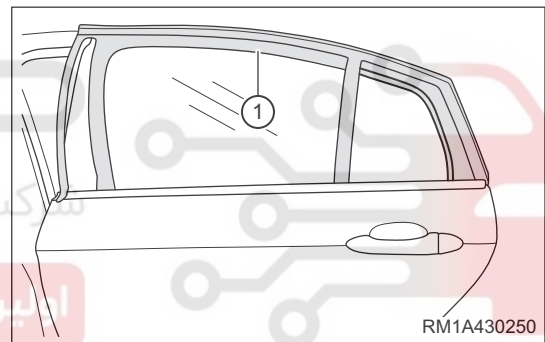
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing rear door glass upper run.
- Appropriate force should be applied, when removing rear door glass upper run. Be careful not to operate roughly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear left door weather bar ([See page 44-60](#)).
4. Remove the rear left door glass assembly ([See page 44-61](#)).
5. Remove the rear left door triangular window glass assembly ([See page 44-63](#)).
6. Remove the rear left door glass upper run.
 - a. Remove fixing clips from rear left door glass upper run, and remove rear left door glass upper run (1).



Installation

44

Installation is in the reverse order of removal.

Rear Door Glass Guide Rail Assembly

Removal

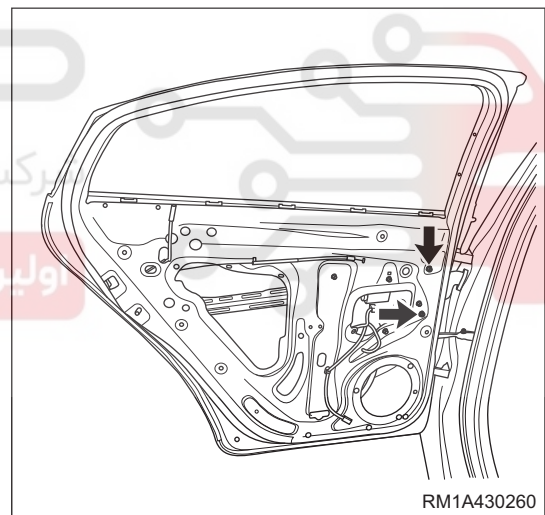
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

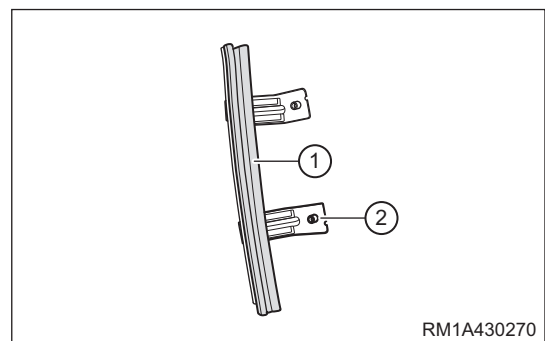
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing rear door glass guide rail assembly.
- Appropriate force should be applied when removing rear door glass guide rail assembly. Be careful not to operate roughly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear left door inner protector assembly (See page 48-31).
4. Remove the rear left door metal bracket (See page 48-34).
5. Remove the rear left door protective film assembly (See page 48-34).
6. Remove the rear left door glass front guide rail assembly.
 - a. Remove 2 fixing bolts (arrow) from rear left door glass front guide rail assembly, and remove rear left door glass front guide rail assembly. (Tightening torque: 7 ± 1 N·m)

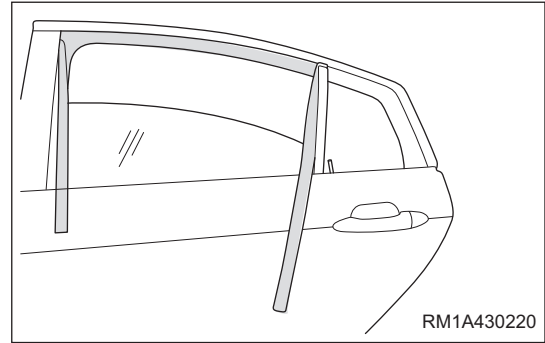


- b. Remove rear left door B-pillar glass lower run (1) from rear left door glass front guide rail assembly (2).

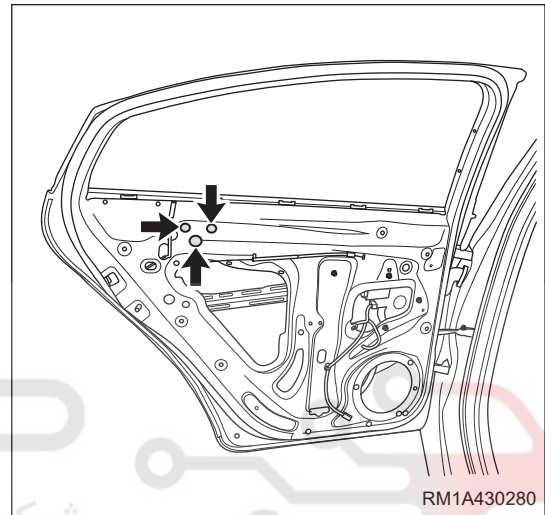


44 - WINDSHIELD/WINDOW GLASS

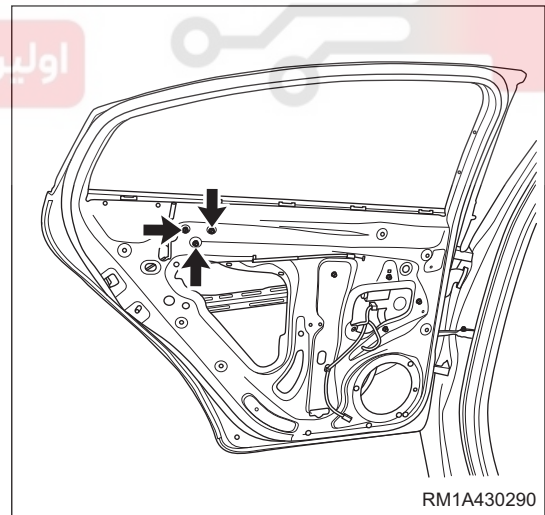
7. Remove the rear left door glass rear guide rail assembly.
 - a. Lower rear left door glass assembly to a proper position, and pull rear left door glass run out from trough.



- b. Remove 3 rear left door butyl hole plugs (arrow).



- c. Remove 3 fixing bolts (arrow) from rear left door glass rear guide rail assembly and remove rear left door glass rear guide rail assembly. (Tightening torque: $7 \pm 1 \text{ N}\cdot\text{m}$)

**Installation**

Installation is in the reverse order of removal.

CAUTION

- After installing window glass regulating system, make sure that window glass can go up and down smoothly and freely without any vibration, chattering or shock loading, etc.

Rear Door Power Glass Regulator

Removal

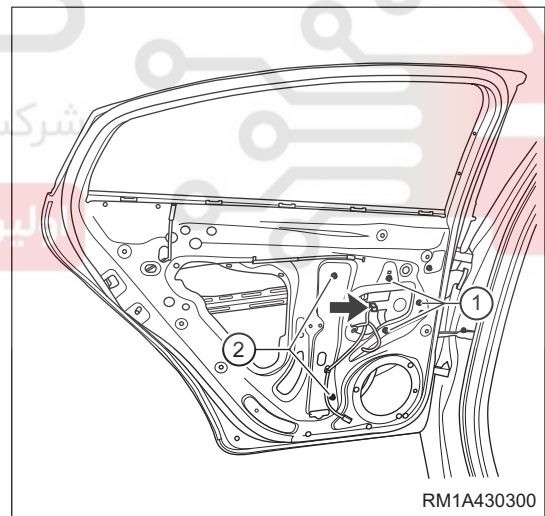
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing rear door power glass regulator.
- Appropriate force should be applied when removing rear door power glass regulator. Be careful not to operate roughly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear left door inner protector assembly (See page 48-31).
4. Remove the rear left door metal bracket (See page 48-34).
5. Remove the rear left door protective film assembly (See page 48-34).
6. Remove the rear left door glass assembly (See page 44-61).
7. Remove the rear left door power glass regulator.
 - a. Disconnect connector (arrow) from rear left door power glass regulator.
 - b. Remove 3 fixing bolts (1) from rear left door power glass regulator.
(Tightening torque: 7 ± 1 N·m)
 - c. Remove 2 fixing nuts (2) from rear left door power glass regulator, and remove rear left door power glass regulator.
(Tightening torque: 7 ± 1 N·m)



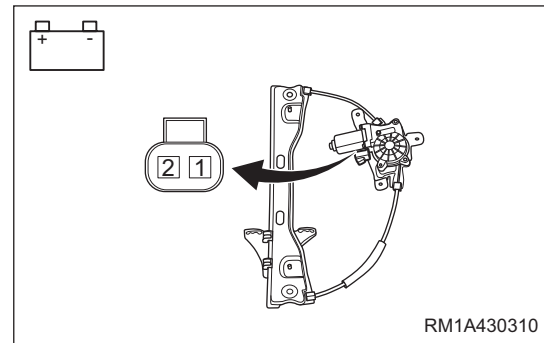
44 - WINDSHIELD/WINDOW GLASS

Inspection

1. Check the rear door power glass regulator.
 - a. Apply battery voltage to terminals of rear door power glass regulator motor connector, and check operation of rear door power glass regulator motor according to table below.

Measurement Condition		Specified Condition
Battery positive (+)	Battery negative (-)	
2	1	UP smoothly
1	2	DOWN smoothly

If result is not as specified, replace rear door power glass regulator assembly.

**Installation**

Installation is in the reverse order of removal.

CAUTION

- After installing rear door power glass regulator, make sure that window glass can go up and down smoothly and freely without any vibration, chattering or shock loading, etc.

Front Windshield Assembly

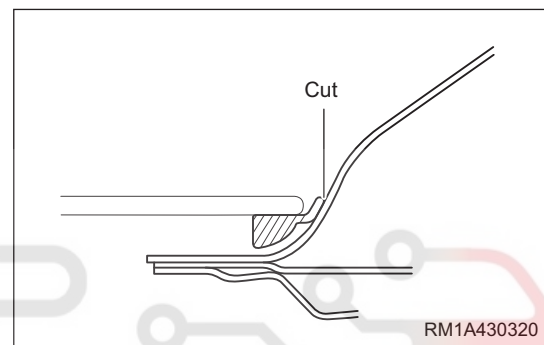
Removal

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the roof assembly (See page 50-27).

HINT:

It is not necessary to completely remove roof assembly. Lower the front part of roof assembly, so that front windshield assembly can be removed.

4. Remove the inside rear view mirror assembly (See page 45-15).
5. Remove the front wiper arm assembly (See page 37-22).
6. Remove the front windshield lower support assembly (See page 49-28).
7. Remove the front windshield weatherstrip.
8. Remove the front windshield assembly.
 - a. Using a knife, cut off the adhesive.



CAUTION

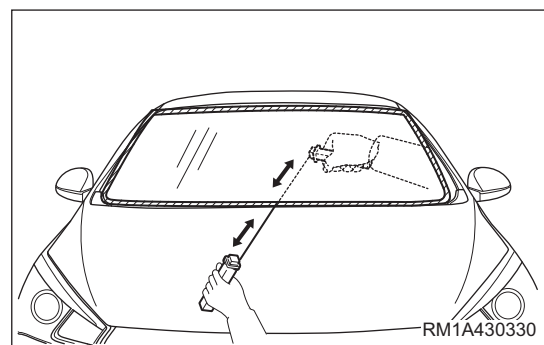
- Try to prevent body paint surface from being scratched, when cutting off the adhesive.

- b. Apply protective tapes to outer surface of body to prevent scratches.

CAUTION

- To prevent instrument panel upper body assembly from being scratched, place a plastic sheet between piano wire and instrument panel upper body assembly.

- c. Pass a piano wire through seam between body and front windshield assembly.
- d. Tie wooden blocks or similar objects to both piano wire ends, cut off adhesive by pulling piano wire around front windshield assembly, and remove front windshield assembly.



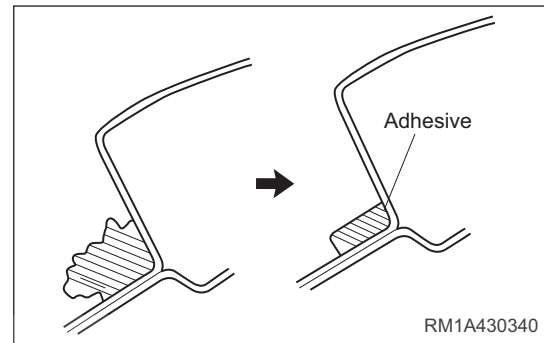
44 - WINDSHIELD/WINDOW GLASS

CAUTION

- When removing front windshield assembly, an assistant is needed.
- When removing front windshield assembly, prevent it from dropping.
- Leave as much adhesive on the body as possible when cutting off the adhesive.
- When separating front windshield assembly from vehicle, be careful not to damage body paint, interior and exterior ornaments.

9. Clean the vehicle body.

- a. Using a knife, cut off any excess adhesive on contact surface of vehicle body as shown in illustration.

**CAUTION**

- Try to prevent body paint surface from being scratched, when cutting off the adhesive.
- Leave as much adhesive on the body as possible, when cutting off the adhesive.

- b. Clean contact surface of vehicle body with cleaner.

CAUTION

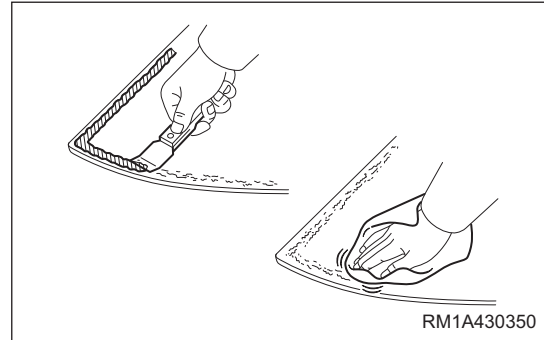
- Even if all adhesive has been removed, cleaning of vehicle would be necessary.

10. Clean the removed glass.

CAUTION

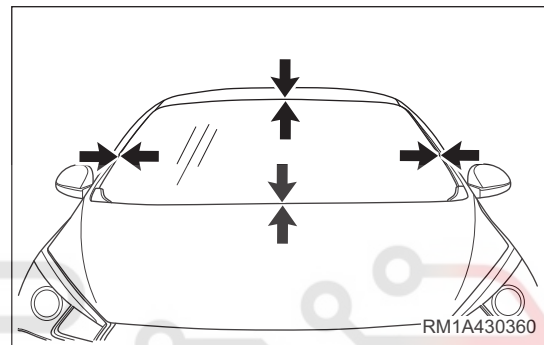
- DO NOT touch the glass after cleaning it.
- Even if a new glass is used, it is necessary to clean it with glass cleaner.

- Using a scraper, remove adhesive sticking to glass.
- Clean outer edges of glass with cleaner.



Installation

- Position the front windshield assembly.
 - Align positioning blocks with metal plate installation holes of body.
 - Check if whole contact surface of glass edge is perfectly even.
 - Place matchmarks on front windshield assembly and body at positions shown in illustration.



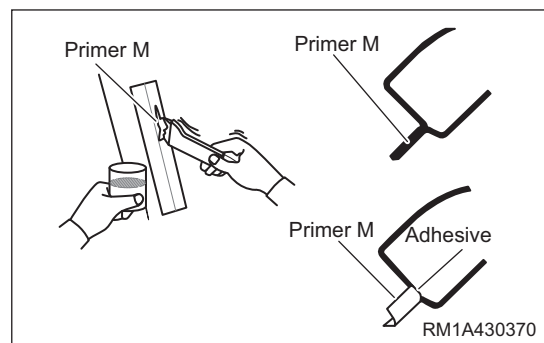
- Remove the front windshield assembly.
- Apply a coat of primer M to contact surface of vehicle body.

CAUTION

- Allow primer to dry for at least 3 minutes.
- DO NOT apply primer to the adhesive.
- DO NOT apply too much primer.
- DO NOT keep any opened primer M for later use.

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- Using a brush, apply a coat of primer M to contact surface of vehicle body.
- Width of primer is 13 to 15 mm.



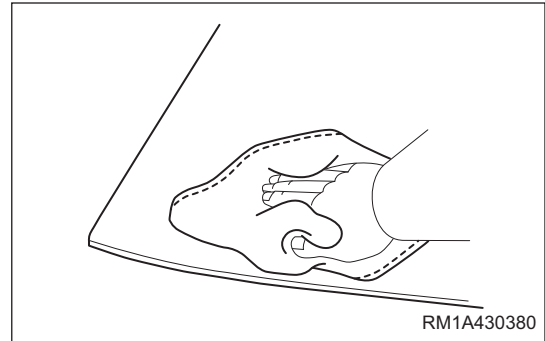
44 - WINDSHIELD/WINDOW GLASS

3. Clean contact surface of front windshield assembly.

CAUTION

- DO NOT touch the glass surface after cleaning it.

- a. Remove any residue on contact surface of front windshield assembly with a clean, lint-free cloth soaked with cleaner.

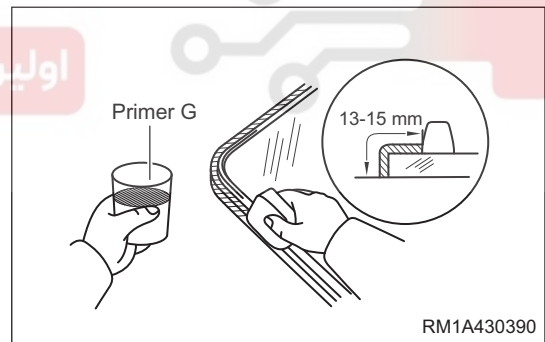


4. Apply a coat of primer G to contact surface of front windshield assembly.

CAUTION

- Allow primer to dry for at least 3 minutes.
- DO NOT apply primer to the adhesive.
- DO NOT apply too much primer.
- DO NOT keep any opened primer G for later use.

- a. Using a brush, apply a coat of primer G to glass edge and contact surface.
 b. Wipe off any excess primer with a clean cloth before drying.
 c. Width of primer is 13 to 15 mm.



5. Install the front windshield weatherstrip.

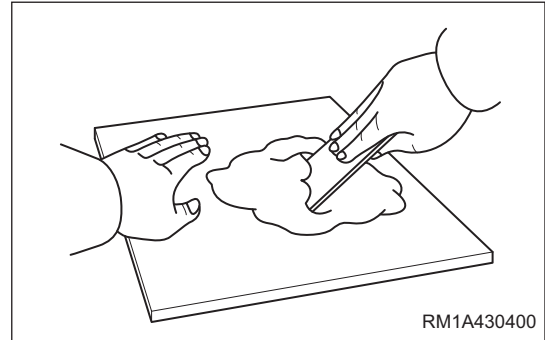
6. Mix the adhesive.

CAUTION

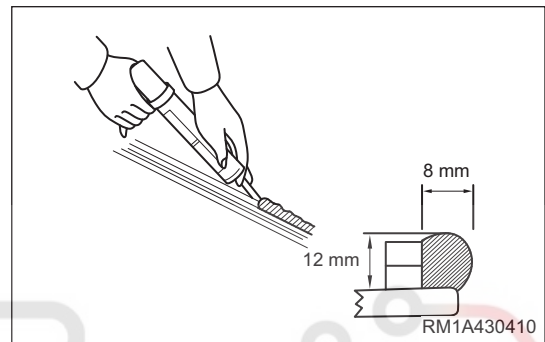
- Adhesive should be mixed thoroughly within 5 minutes.

- a. Using a solvent, thoroughly clean mixing board and scraper.

- b. Using a scraper, thoroughly mix 500 g main adhesive and 75 g hardener on mixing board.



7. Apply the adhesive.
- Cut off tip of cartridge nozzle and add adhesive.
 - Install cartridge to sealer gun.
 - Apply adhesive evenly to front windshield assembly as shown in illustration.
Adhesive width: 8 mm
Adhesive height: 12 mm

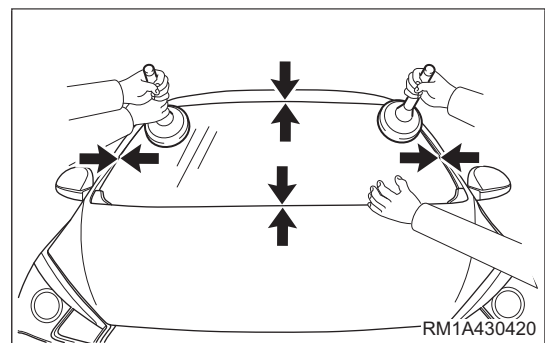


8. Install the front windshield assembly.

CAUTION

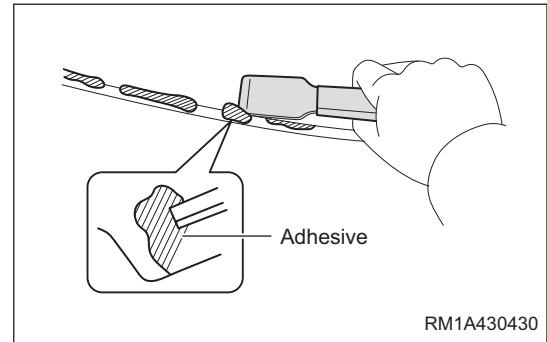
- Check that lower/upper clearance and right/left clearance of front windshield assembly are uniform, to ensure good fitting with weatherstrips all around.

- a. Align matchmarks on glass and vehicle body, and gently press in glass along edge.



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- b. Using a scraper, uniformly apply adhesive to glass edge.
- c. Remove any excess or spilled adhesive with a scraper.



- d. Apply tapes all the way around, and do not remove them until adhesive hardens.
- 9. Check and repair sealing of glass.
 - a. Check glass for leakage after adhesive has completely hardened.
 - b. If it leaks, seal leaks by adding adhesive.
 - 10. Install the front windshield lower support assembly.
 - 11. Install the front wiper arm assembly.
 - 12. Install the inside rear view mirror assembly.
 - 13. Install the roof assembly.
 - 14. Connect the negative battery cable.

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



Rear Windshield Assembly

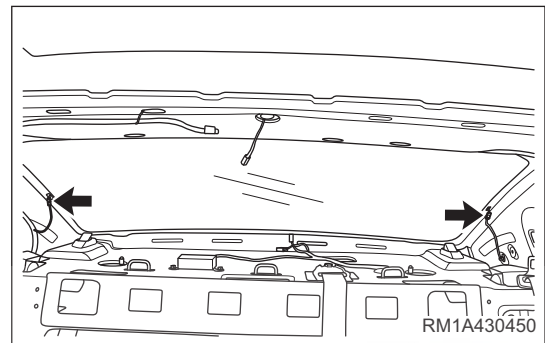
Removal

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the tonneau cover assembly (See page 50-33).
4. Remove the roof assembly (See page 50-27).

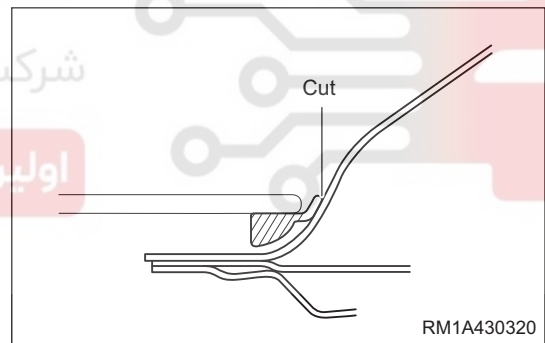
HINT:

It is not necessary to completely remove roof assembly. Lower the rear part of roof assembly, so that rear windshield assembly can be removed.

5. Remove the defroster wire harness assembly.
 - a. Remove the defroster connectors (arrow).



6. Remove the rear windshield weatherstrip.
7. Remove the rear windshield assembly.
 - a. Using a knife, cut off the adhesive.



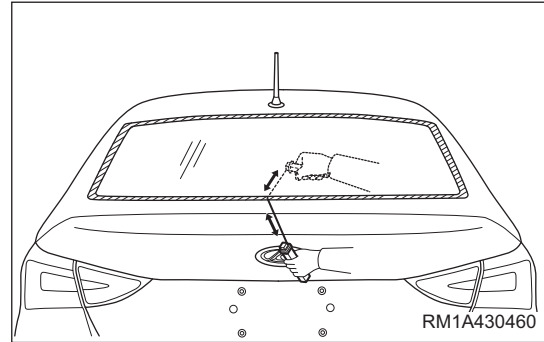
CAUTION

- Try to prevent body paint surface from being scratched, when cutting off the adhesive.

- b. Apply protective tapes to outer surface of body to prevent scratches.
- c. Pass a piano wire through seam between body and rear windshield assembly.

44 - WINDSHIELD/WINDOW GLASS

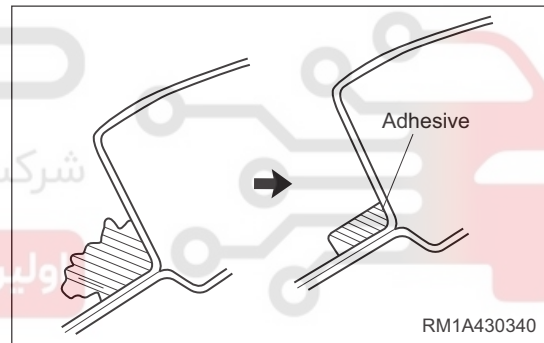
- d. Tie wooden blocks or similar objects to both piano wire ends, cut off adhesive by pulling piano wire around rear windshield assembly, and remove rear windshield assembly.


CAUTION

- When removing rear windshield assembly, an assistant is needed.
- When removing rear windshield assembly, prevent it from dropping.
- Leave as much adhesive on the body as possible when cutting off the adhesive.
- When separating rear windshield assembly from vehicle, be careful not to damage body paint, interior and exterior ornaments.

8. Clean the vehicle body.

- a. Using a knife, cut off any excess adhesive on contact surface of vehicle body as shown in illustration.



44

CAUTION

- Try to prevent body paint surface from being scratched, when cutting off the adhesive.
- Leave as much adhesive on the body as possible, when cutting off the adhesive.

- b. Clean contact surface of vehicle body with cleaner.

CAUTION

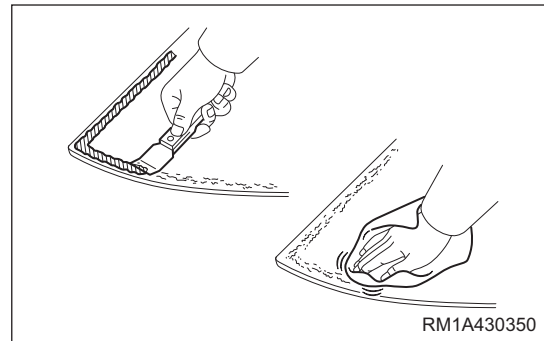
- Even if all adhesive has been removed, cleaning of vehicle would be necessary.

9. Clean the removed glass.

CAUTION

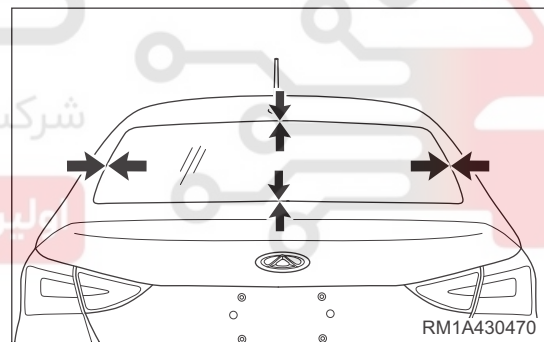
- DO NOT touch the glass after cleaning it.
- Even if a new glass is used, it is necessary to clean it with glass cleaner.

- Using a scraper, remove adhesive sticking to glass.
- Clean outer edges of glass with glass cleaner.



Installation

- Position the rear windshield assembly.
 - Align positioning blocks with metal plate installation holes of body.
 - Check if whole contact surface of glass edge is perfectly even.
 - Place matchmarks on rear windshield assembly and body at positions shown in illustration.



44

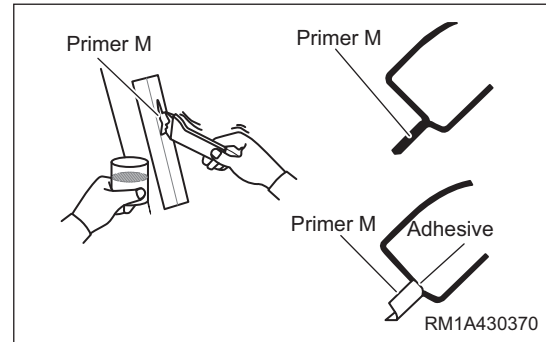
- Remove the rear windshield assembly.
- Apply a coat of primer M to contact surface of vehicle body.

CAUTION

- Allow primer to dry for at least 3 minutes.
- DO NOT apply primer to the adhesive.
- DO NOT apply too much primer.
- DO NOT keep any opened primer M for later use.

44 - WINDSHIELD/WINDOW GLASS

- Using a brush, apply a coat of primer M to contact surface of vehicle body.
- Width of primer is 13 to 15 mm.

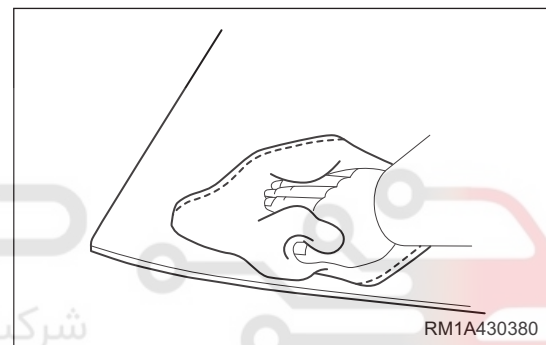


- Clean contact surface of rear windshield.

CAUTION

- DO NOT touch the surface of rear windshield after cleaning it.

- Remove any residue on contact surface of rear windshield with a clean, lint-free cloth soaked with cleaner.



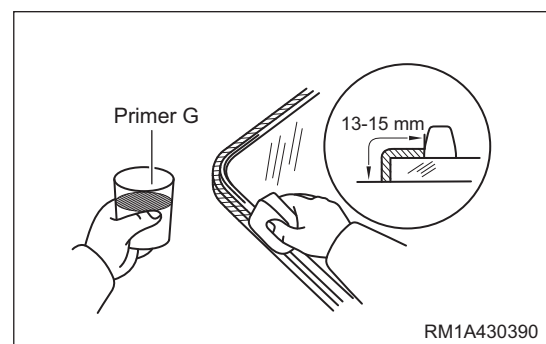
- Apply a coat of primer G to contact surface of rear windshield assembly.

CAUTION

- Allow primer to dry for at least 3 minutes.
- DO NOT apply primer to the adhesive.
- DO NOT apply too much primer.
- DO NOT keep any opened primer G for later use.

44

- Using a brush, apply a coat of primer G to glass edge and contact surface.
- Wipe off any excess primer with a clean cloth before drying.
- Width of primer is 13 to 15 mm.

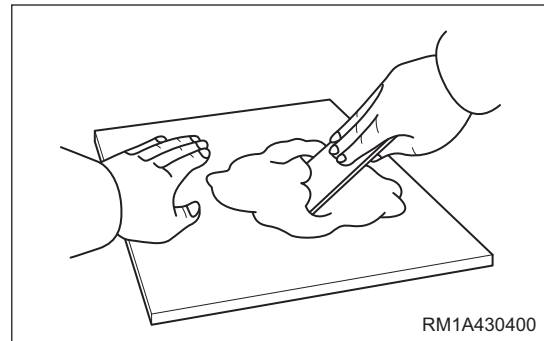


5. Install the rear windshield weatherstrip.
6. Mix the adhesive.

CAUTION

- Adhesive should be mixed thoroughly within 5 minutes.

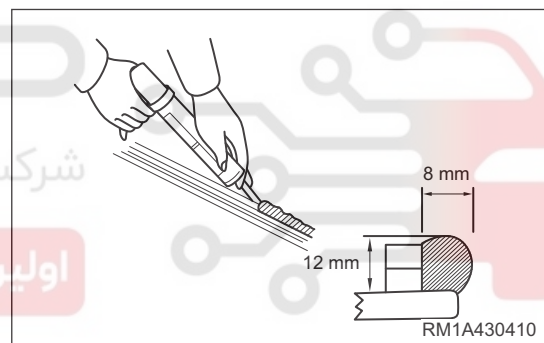
- a. Using a solvent, thoroughly clean mixing board and scraper.
- b. Using a scraper, thoroughly mix 500 g main adhesive and 75 g hardener on mixing board.



7. Apply the adhesive.
 - a. Cut off tip of cartridge nozzle and add adhesive.
 - b. Install cartridge to sealer gun.
 - c. Apply adhesive evenly to rear windshield assembly as shown in illustration.

Adhesive width: 8 mm

Adhesive height: 12 mm

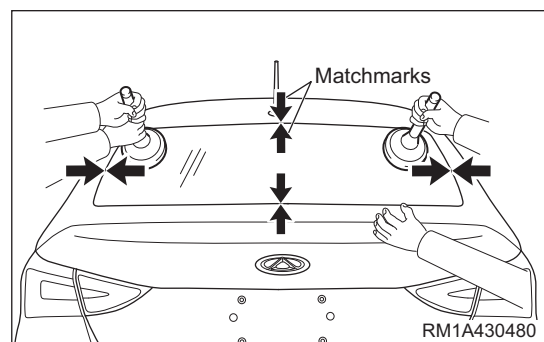


8. Install the rear windshield assembly.

CAUTION

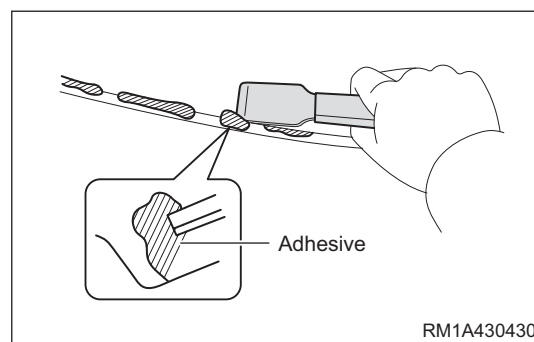
- Check that lower/upper clearance and right/left clearance of rear windshield assembly are uniform, to ensure good fitting with weatherstrips all around.

- a. Align matchmarks on glass and vehicle body, and gently press in glass along edge.



44 - WINDSHIELD/WINDOW GLASS

- b. Using a scraper, uniformly apply adhesive to glass edge.
- c. Remove any excess or spilled adhesive with a scraper.



- d. Apply tapes all the way around, and do not remove them until adhesive hardens.
- 9. Check and repair sealing of glass.
 - a. Check glass for leakage after adhesive has completely hardened.
 - b. If it leaks, seal leaks by adding adhesive.
 - 10. Install the tonneau cover assembly.
 - 11. Install the roof assembly.
 - 12. Connect the negative battery cable.

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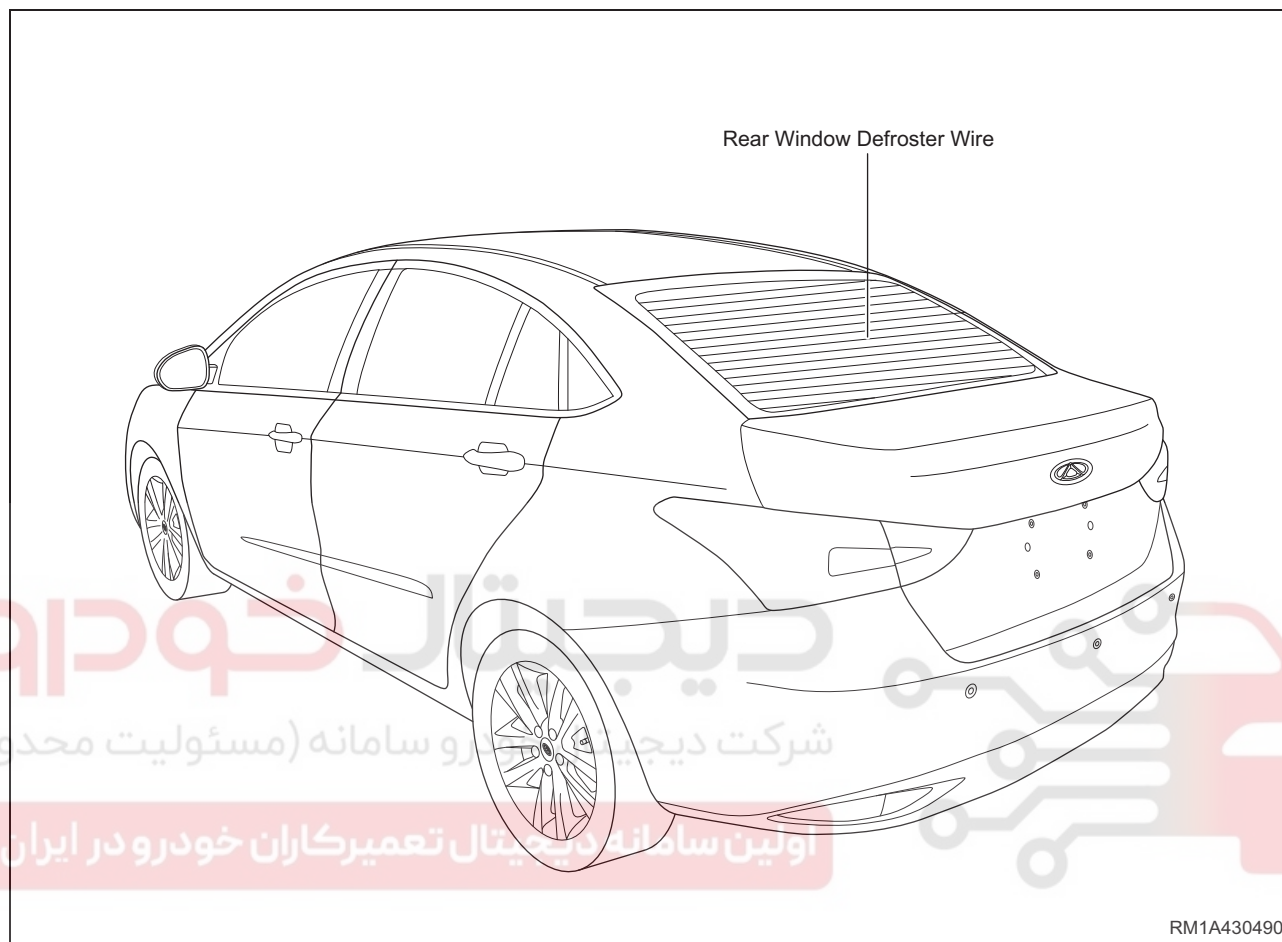
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Rear Window Defroster

General Information

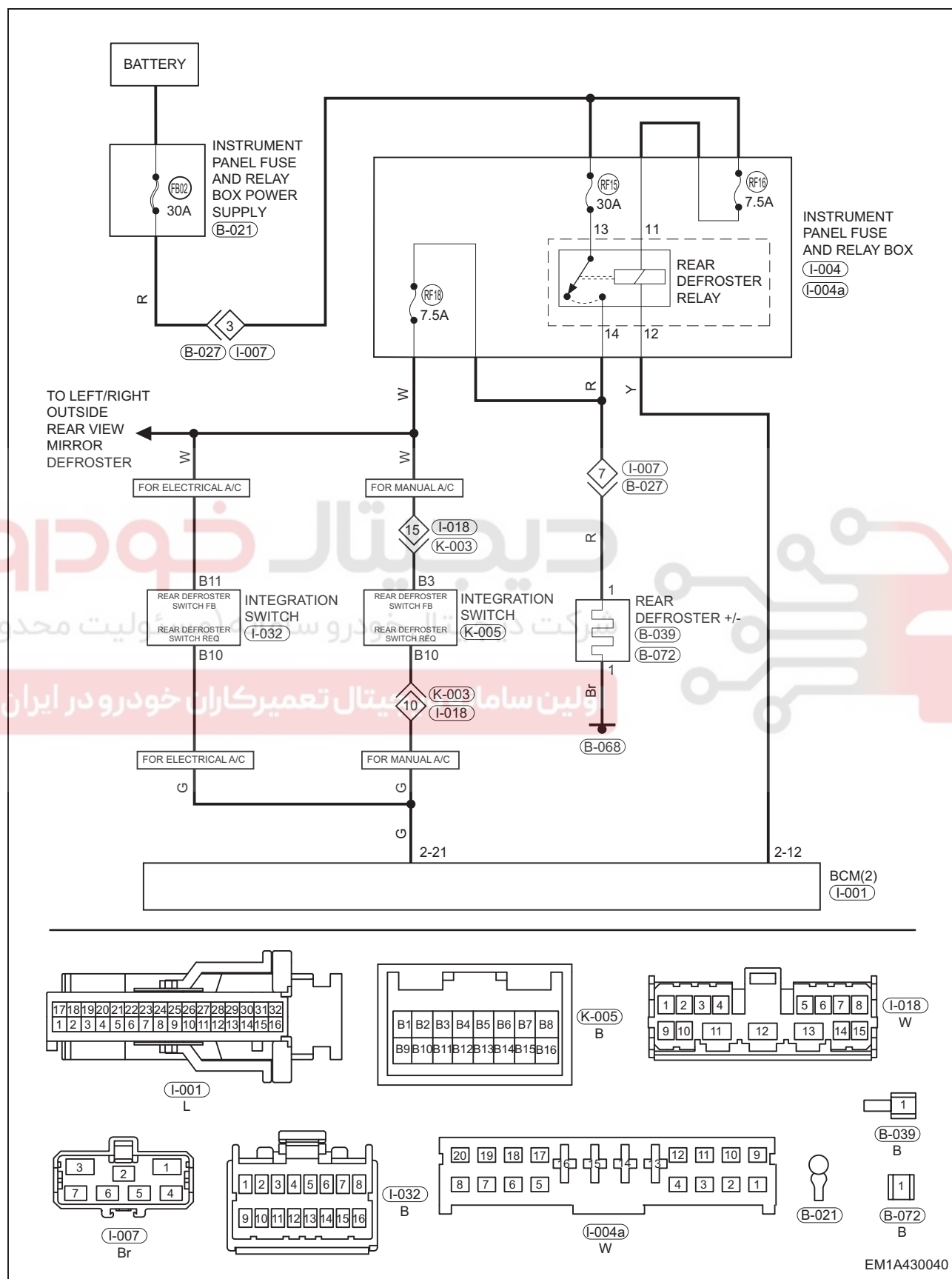
Description



When rear window defroster switch is turned on, rear window defroster wire is heated to remove the fog, frost or water vapor from rear windshield, thus realizing a clear view.

To turn on rear window defroster, turn ignition switch to ON and press rear window defroster switch. Then rear window defroster starts operating and the indicator on rear window defroster switch turns on. Press rear window defroster switch again to stop rear window defroster. Also, the indicator turns off.

Rear Window Defroster System



Problem Symptoms Table

Symptom	Suspected Area	See page
Rear window defroster switch is turned on but does not operate	Fuse	54-32
	Rear window defroster switch	44-89
	Rear window defroster wire	-
	Wire harness or connector	-
Rear window defroster has intermittent problem	Ground	54-4
	Wire harness or connector	-

Diagnosis Tool

Digital Multimeter

When using digital multimeter:

- Troubleshoot electrical malfunctions and wire harness system.
- Look for basic fault.
- Measure voltage, current and resistance.

Diagnostic Help

1. Confirm that the malfunction is current, and carry out diagnostic test and repair procedures.
2. Only use a digital multimeter to measure voltage of electronic system.
3. Refer to any Technical Bulletin that may apply to the malfunction.
4. Visually check the related wire harness.

Ground Inspection

Ground points are very important to entire circuit system, which are normal or not can seriously affect the entire circuit system. Ground points are often exposed to moisture, dirt and other corrosive environments. Corrosion (rust) and oxidation may increase load resistance. This situation will seriously affect the normal operation of circuit. Check the ground points as follows:

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

Diagnosis Procedure

HINT:

Use following procedures to troubleshoot the rear window defroster system.

1	Vehicle brought to workshop
---	-----------------------------

NEXT

44 - WINDSHIELD/WINDOW GLASS

2

Check battery voltage

Standard voltage: 11 to 14 V

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

NEXT

3

Customer problem analysis

NEXT

4

Adjust, repair or replace

NEXT

5

Conduct test and confirm malfunction has been repaired

NEXT

6

End

 CAUTION

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

44

Inspection Procedure

1

Check rear window defroster switch (center control integration panel)

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the body wire harness connector K-005.
- Remove center control integration panel from malfunctioning vehicle, then install it to a new vehicle and perform a test.
- Connect all connectors.
- Connect the negative battery cable, and turn ignition switch to ON.
- Check operation of rear window defroster switch.

NG

Replace center control integration panel

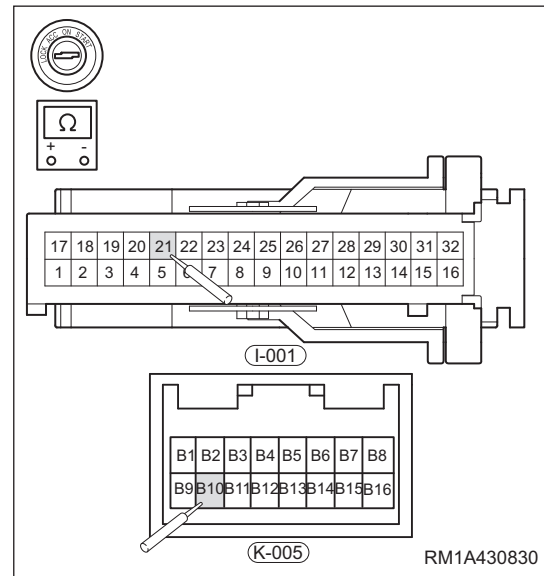
OK

2

Check body wire harness and connector

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connector K-005 and BCM connector I-001.
- Using a digital multimeter, check for continuity between body wire harness connector K-005 and BCM connector I-001 according to table below.

Multimeter Connection	Condition	Specified Condition
K-005 (B10) - I-001 (21)	Always	Continuity

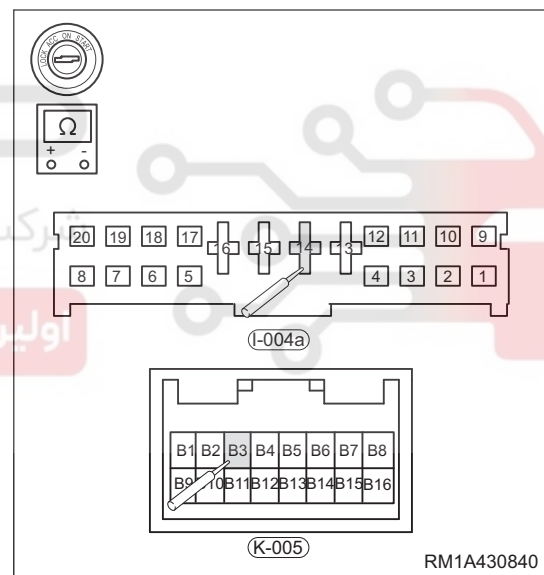


- Using a digital multimeter, check for continuity between body wire harness connectors K-005 and I-004a according to table below.

Multimeter Connection	Condition	Specified Condition
K-005 (B3) - I-004a (14)	Always	Continuity

NG

Repair or replace body wire harness, connector or fuse

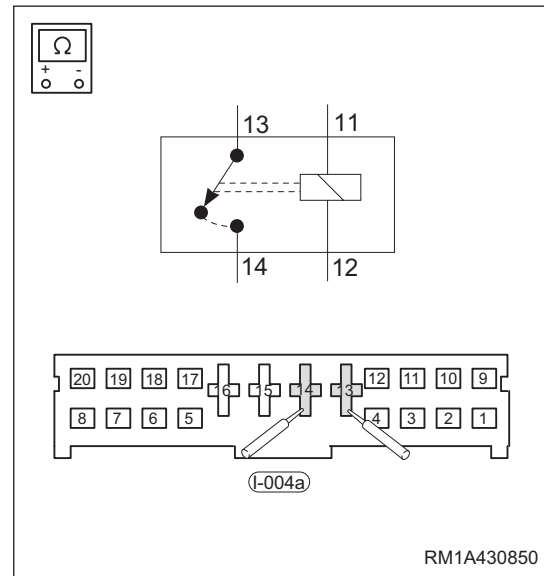


OK

3**Check rear window defroster relay**

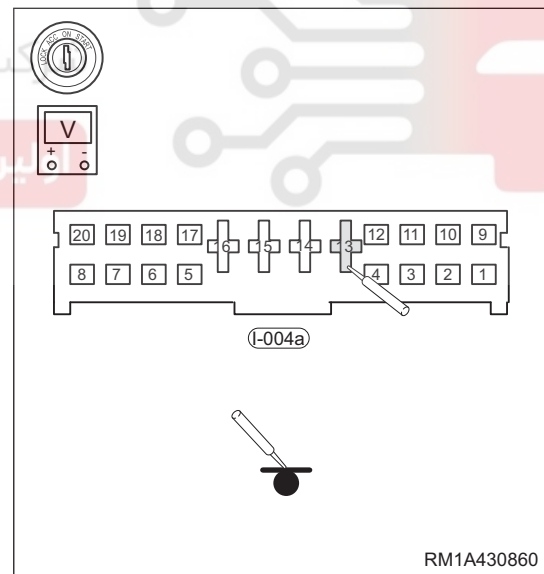
- Unplug connector I-004a from instrument panel fuse and relay box.
- Check the rear window defroster relay terminals.

Multimeter Connection	Specified Condition
13 - 14	No continuity
11 - 12	Continuity (When battery voltage is applied between terminal 11 and terminal 12)

NG**Replace instrument panel wire harness assembly****OK****4****Check body wire harness and connector**

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect the body wire harness connector I-004a.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage of body wire harness connector I-004a according to table below.

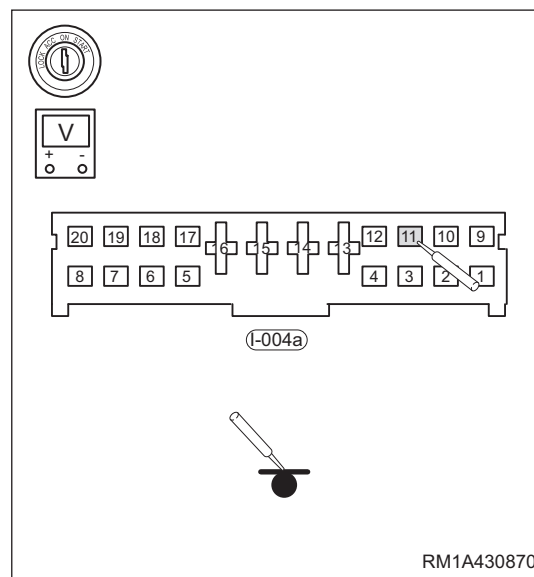
Multimeter Connection	Condition	Specified Condition
I-004a (13) - Body ground	Ignition switch ON	11 V



Multimeter Connection	Condition	Specified Condition
I-004a (11) - Body ground	Ignition switch ON	11 V

NG

Repair or replace body wire harness, connector or fuse

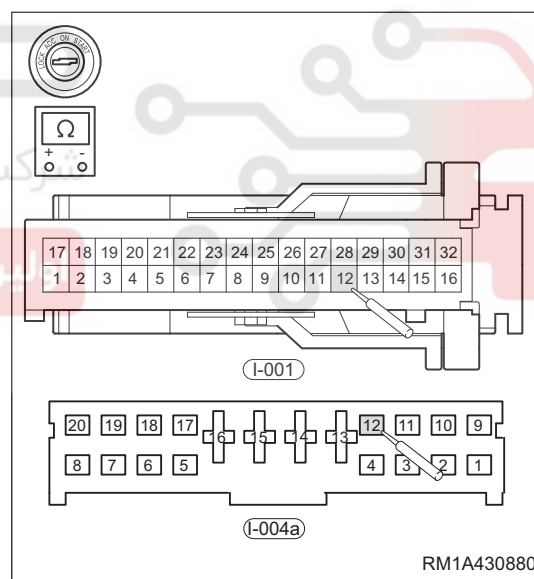


OK

5 Check body wire harness and connector

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable.
- Disconnect body wire harness connector I-004a and BCM connector I-001.
- Using a digital multimeter, check for continuity between body wire harness connector I-004a and BCM connector I-001 according to table below.

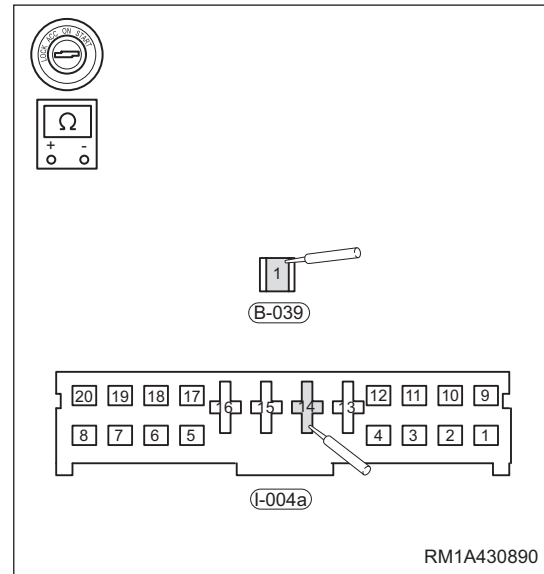
Multimeter Connection	Condition	Specified Condition
I-004a (12) - I-001 (12)	Always	Continuity



44 - WINDSHIELD/WINDOW GLASS

- e. Using a digital multimeter, check for continuity between body wire harness connector I-004a and rear window defroster connector B-039 according to table below.

Multimeter Connection	Condition	Specified Condition
I-004a (14) - B-039 (01)	Always	Continuity

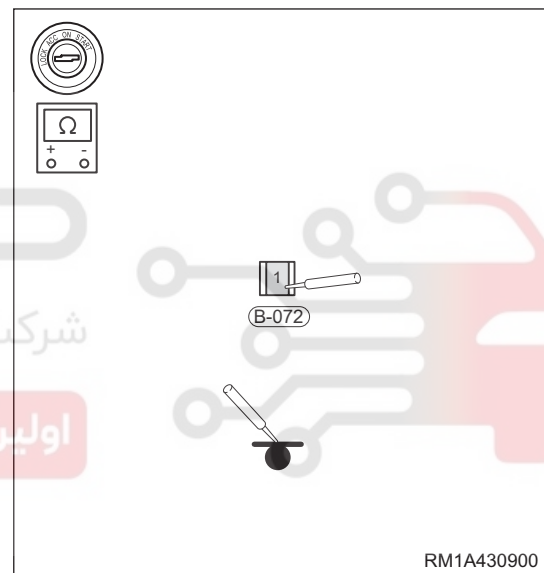


- f. Using a digital multimeter, check for continuity between rear window defroster connector B-072 and body ground according to table below.

Multimeter Connection	Condition	Specified Condition
B-072 (1) - Body ground	Always	Continuity

NG

Repair or replace body wire harness and connector



OK

6

Check rear window defroster

- a. Check rear window defroster surface for tarnish, dirt or rust.
b. Check if rear window defroster wire is broken.

NG

Repair or replace rear window defroster

OK

Replace Body Control Module (BCM)

Rear Window Defroster Switch

Removal

HINT:

Rear window defroster switch is installed on center control integration panel assembly, and cannot be disassembled.

CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing rear window defroster switch.
- Appropriate force should be applied when removing rear window defroster switch. Be careful not to operate roughly.
- Prevent interior from being scratched, when removing rear window defroster switch.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the lower center storage box assembly ([See page 40-28](#)).
4. Remove the center control integration panel assembly ([See page 30-28](#)).

Installation

Installation is in reverse order of removal.

CAUTION

- Install connector in place, when installing rear window defroster switch.
- Always operate carefully to prevent components from being damaged, when installing rear window defroster switch.
- Check rear window defroster switch for proper operation after installation.

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REAR VIEW MIRROR

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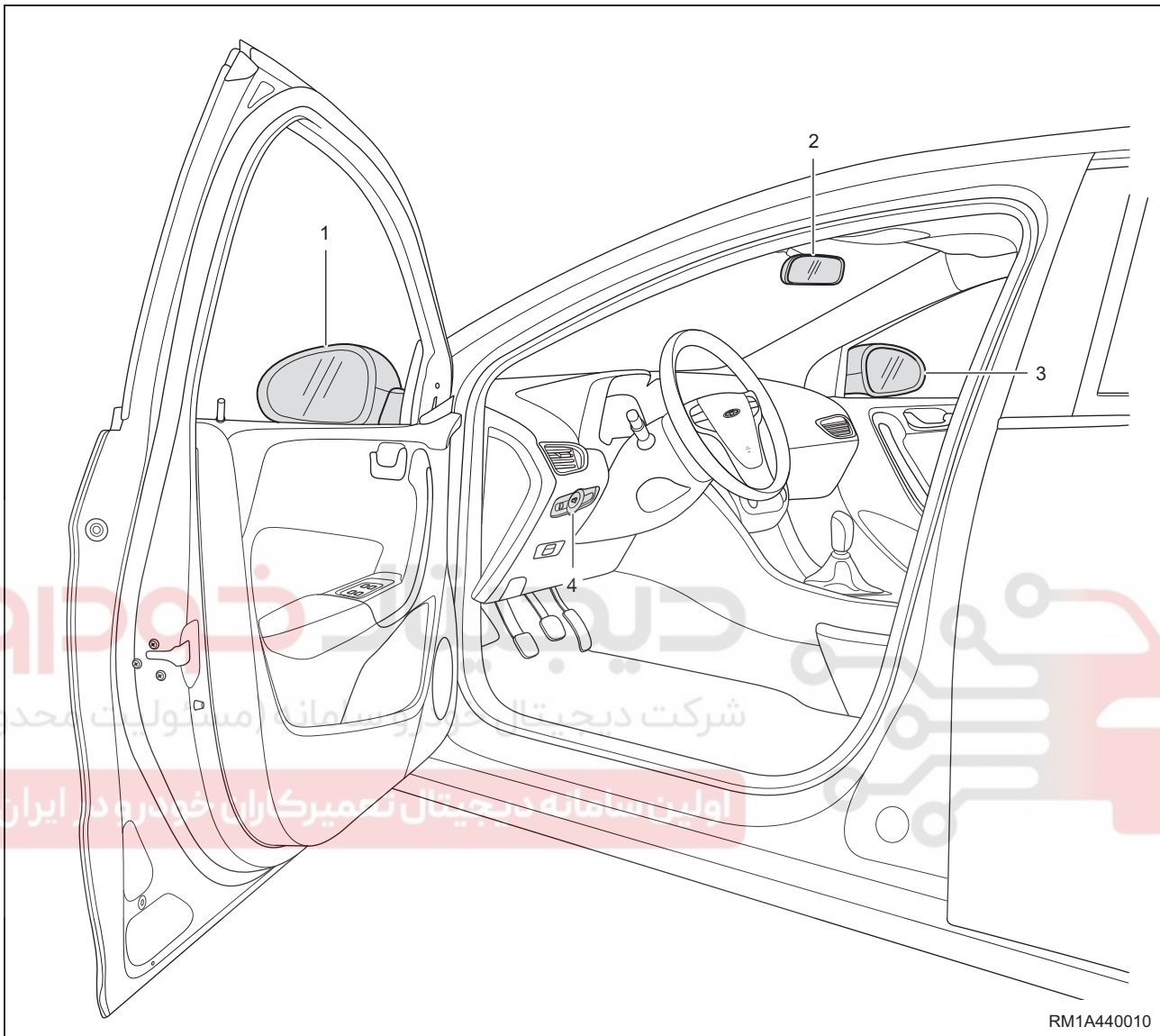
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GENERAL INFORMATION

Description



45

RM1A440010

1 - Left Outside Rear View Mirror Assembly	2 - Inside Rear View Mirror Assembly
3 - Right Outside Rear View Mirror Assembly	4 - Outside Rear View Mirror Adjustment Switch

This vehicle is equipped with power outside rear view mirror assembly and inside rear view mirror assembly.

Power outside rear view mirror assembly: driver can control the rotation of motor by operating outside rear view mirror adjustment switch in vehicle, thus adjusting mirror surface to achieve a required visual angle.

Outside rear view mirror adjustment switch is located on front left door inner protector assembly. With ignition switch ON, press outside rear view mirror switch to "L" or "R" position to select left or right outside rear view mirror assembly that you want to adjust, and then press rear view mirror up or down and left or right button to achieve a required visual angle.

It is necessary to adjust inside rear view mirror assembly manually to desired direction. When driving at night, required rear view mirror assembly angle can be adjusted by pulling back glare-resistant rod to reduce glare.

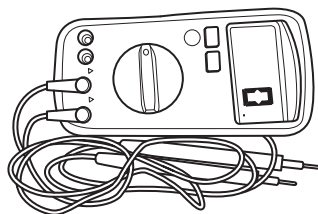
Specification

Torque Specification

Description	Torque (N·m)
Outside Rear View Mirror Assembly Fixing Bolt	6 ± 1

Tool

General Tool

Digital Multimeter	 RCH0000002
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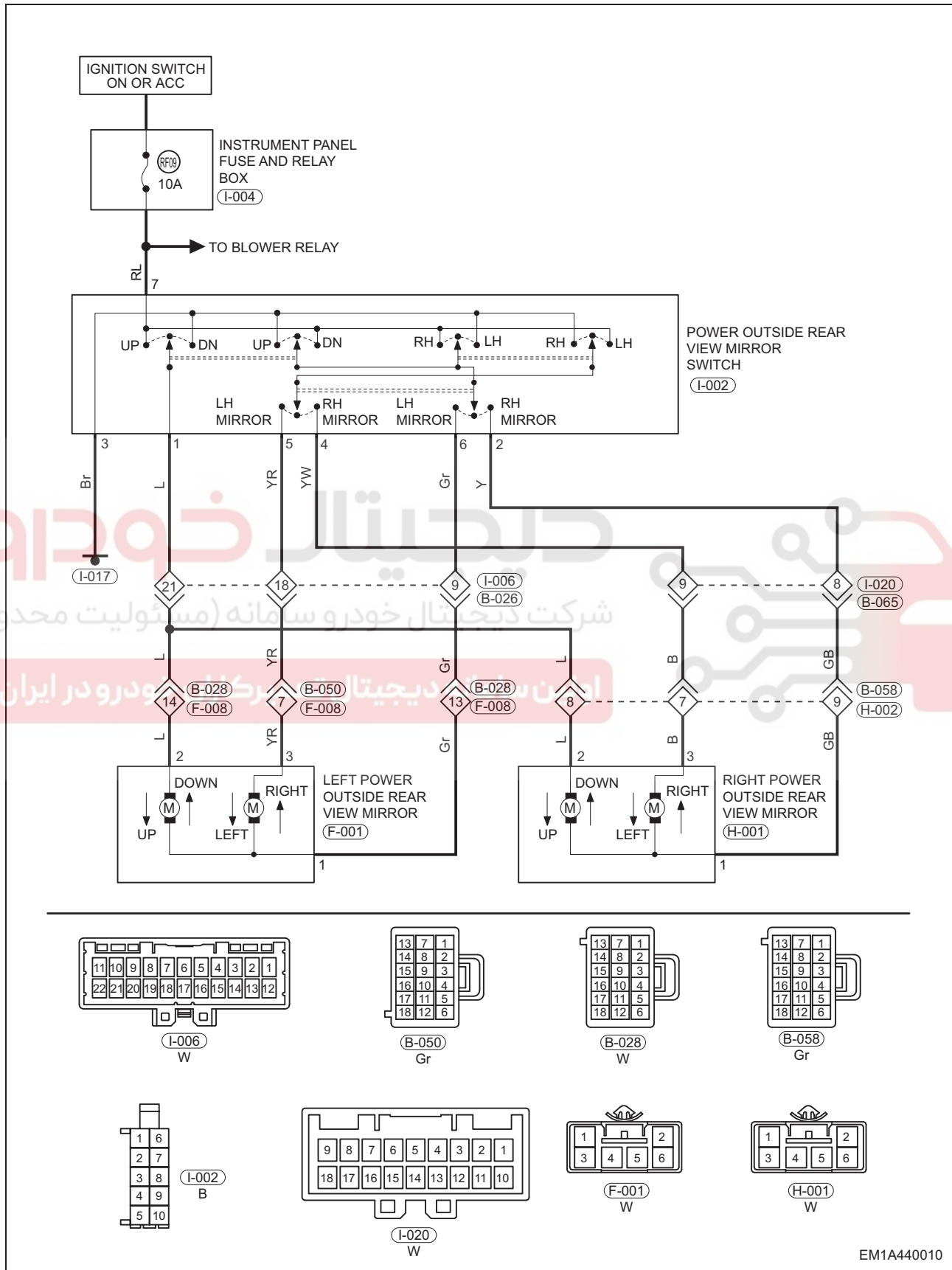
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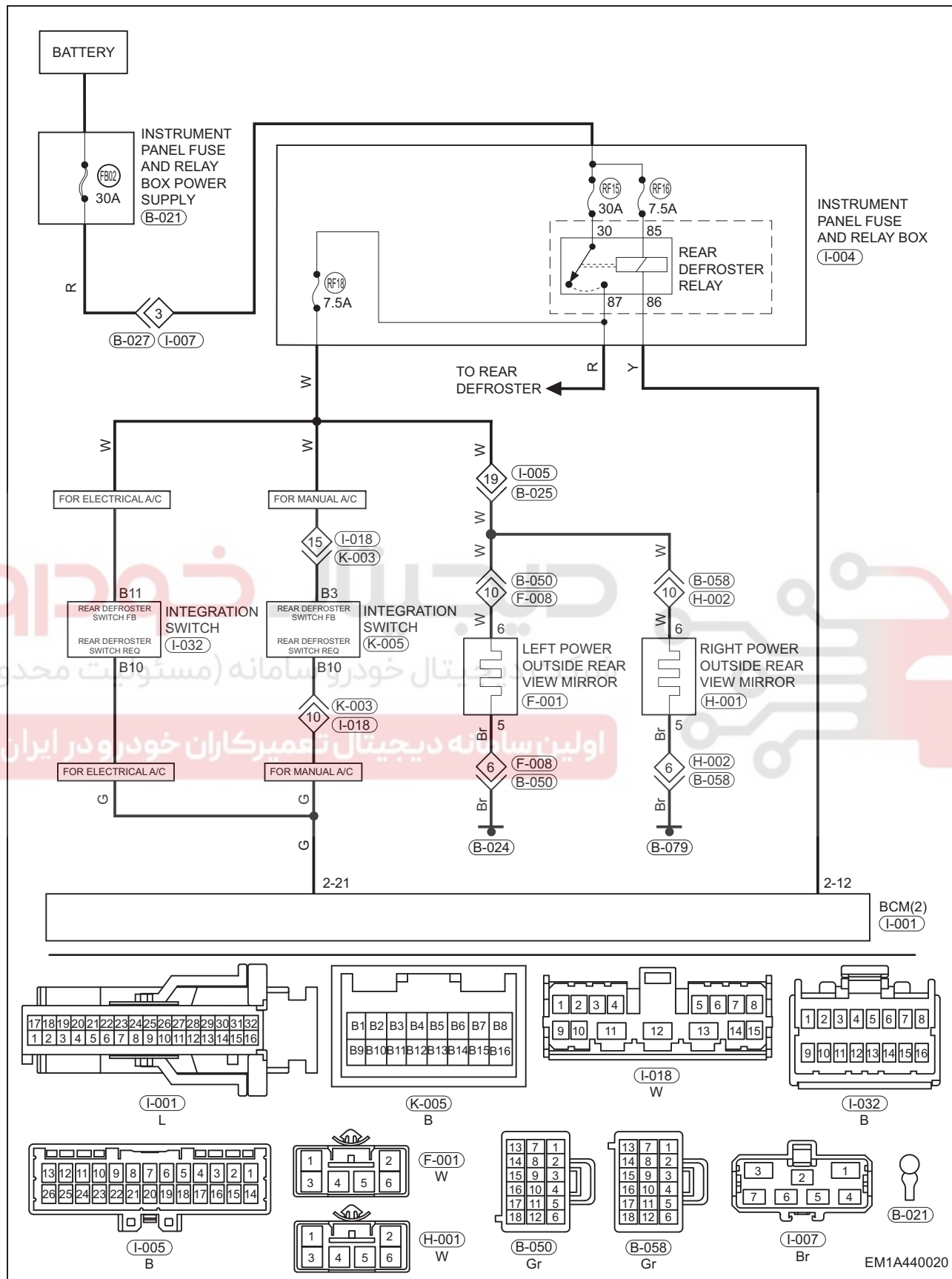


Circuit Diagram

Power Rear View Mirror Control System (Page 1 of 2)



Power Rear View Mirror Control System (Page 2 of 2)



DIAGNOSIS & TESTING

Problem Symptoms Table

HINT:

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

Symptom	Suspected Area	See page
Outside rear view mirror cannot operate	Fuse	54-34
	Outside rear view mirror adjustment switch	45-16
	Outside rear view mirror assembly	45-10
	Wire harness or connector	-
Outside rear view mirror intermittent malfunction	Ground	54-24
	Wire harness or connector	-
Rear view mirror defroster cannot operate (if equipped)	Fuse	54-34
	Rear defroster switch	44-89
	Outside rear view mirror assembly	45-10
	BCM (damaged)	-
	Wire harness or connector	-

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Diagnosis Tool

Digital Multimeter

When using digital multimeter:

- Troubleshoot electrical malfunctions and wire harness system.
- Look for basic fault.
- Measure voltage, current and resistance.

Diagnostic Help

1. Only use a digital multimeter to measure voltage of electronic system.
2. Refer to any Technical Bulletin that may apply to the malfunction.
3. Visually check related wire harness.

Intermittent DTC Troubleshooting

If malfunction is intermittent, perform the followings:

- Check if connectors are loose.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Wiggle related wire harnesses and connectors and observe if signal is interrupted in related circuit.
- Look for broken, bent, protruded or corroded terminals.
- Inspect mounting areas of rear view mirror assembly, wire harness or wire harness connector and so on for damage, foreign matter, etc. that will cause incorrect signals.
- Check and clean all wire harness connectors and grounding parts related to DTC.
- Remove Body Control Module (BCM) from malfunctioning vehicle, then install it to a new vehicle and perform a test. If DTC cannot be cleared, Body Control Module (BCM) is malfunctioning. If DTC can be cleared, reinstall Body Control Module (BCM) to original vehicle.
- Refer to any Technical Bulletin that may apply to the malfunction.

Ground Inspection

Groundings are very important to entire circuit system, which are normal or not can seriously affect the entire circuit system. Ground points are often exposed to moisture, dirt or other corrosive environments. Corrosion (rust) and oxidation may increase load resistance. This situation will seriously affect the normal operation of circuit. Check the ground points as follows:

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

Diagnosis Procedure

HINT:

Use following procedures to troubleshoot the rear view mirror control system.

1	Vehicle brought to workshop
---	-----------------------------

NEXT

2	Check battery voltage
---	-----------------------

Standard voltage: 11 to 14 V

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

NEXT

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

NEXT

4	Check for DTCs
---	----------------

NEXT

5	Adjust, repair or replace
---	---------------------------

NEXT

6	Conduct test and confirm malfunction has been repaired
---	--

45

NEXT

7	End
---	-----

ON-VEHICLE SERVICE

Outside Rear View Mirror Assembly

Removal

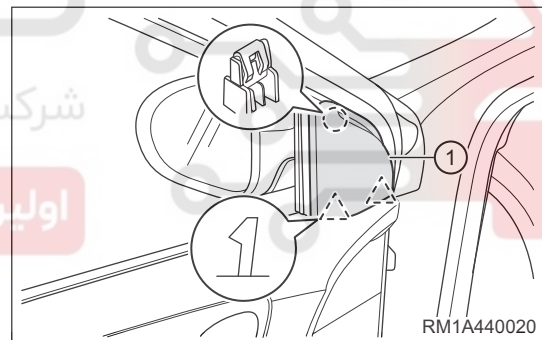
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

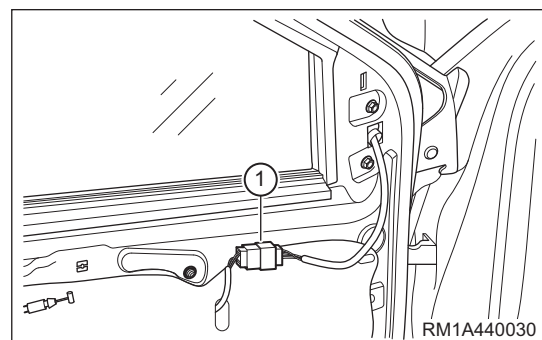
- Be sure to wear necessary safety equipment to prevent accidents, when removing outside rear view mirror assembly.
- Operate carefully to prevent components from being damaged, when removing outside rear view mirror assembly.
- Try to prevent interior and body paint from being scratched, when removing outside rear view mirror assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the left outside rear view mirror inner triangular block.
 - a. Using a screwdriver wrapped with protective tape, pry off clips from outside rear view mirror inner triangular block, and remove left outside rear view mirror inner triangular block (1).

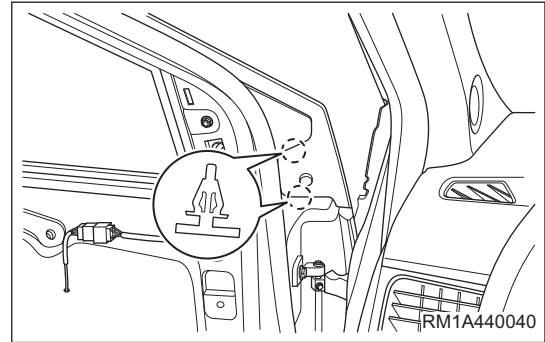


45

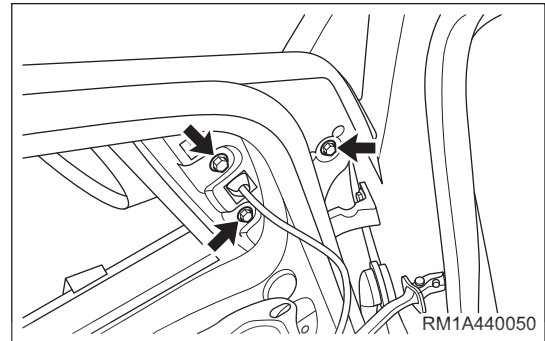
4. Remove the front left door inner protector assembly (See page 48-19).
5. Remove the left outside rear view mirror assembly.
 - a. Disconnect the outside rear view mirror assembly connector (1).



- b. Remove block area of outside rear view mirror bolt from front left door upper glass guide.



- c. Remove 3 fixing bolts (arrow) from outside rear view mirror assembly, and remove left outside rear view mirror assembly.
(Tightening torque: 6 ± 1 N·m)

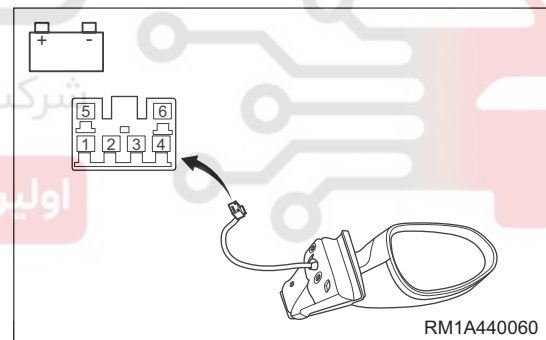


Inspection

1. Check the outside rear view mirror assembly.
a. Apply battery voltage to terminals of outside rear view mirror assembly connector and check operation of outside rear view mirror assembly according to table below.

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 3 Battery negative (-) → Terminal 1	UP
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 3	DOWN
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 2	LEFT
Battery positive (+) → Terminal 2 Battery negative (-) → Terminal 1	RIGHT

If result is not as specified, replace outside rear view mirror assembly.



Installation

Installation is in the reverse order of removal.

CAUTION

- Connect connector in place and tighten fixing bolts to specified torque, when installing outside rear view mirror assembly.
- Make sure outside rear view mirror assembly can move smoothly, flexibly and reliably after installation.

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Outside Rear View Mirror Lens Assembly

Removal

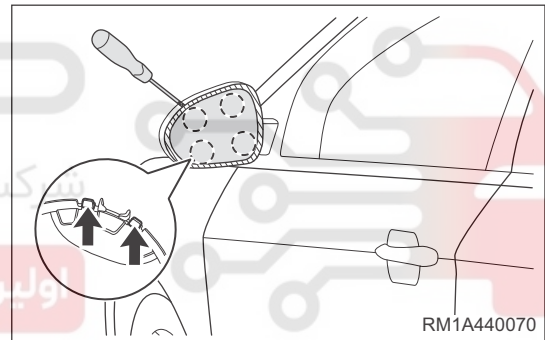
HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

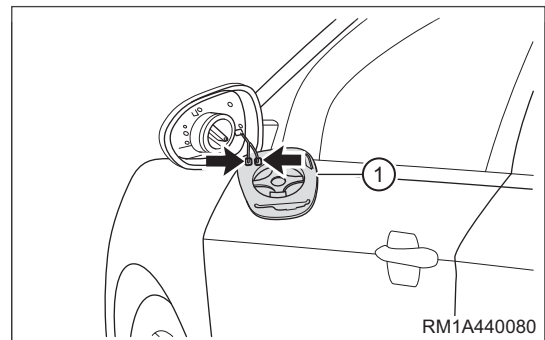
CAUTION

- Avoid breaking claws when removing outside rear view mirror lens assembly.
- Avoid damaging lens due to dropping when removing outside rear view mirror lens assembly.
- Try to prevent body paint surface from being scratched, when removing outside rear view mirror lens assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the left outside rear view mirror lens assembly.
 - a. Press outside rear view mirror surface to tilt it.
 - b. Apply protective tape around exterior frame of outside rear view mirror.
 - c. Using a screwdriver wrapped with protective tape, pry off claws (arrow) from outside rear view mirror lens assembly.



- d. Disconnect connectors (arrow) from rear view mirror lens assembly, and remove left outside rear view mirror lens assembly (1). (if equipped with rear mirror heater)



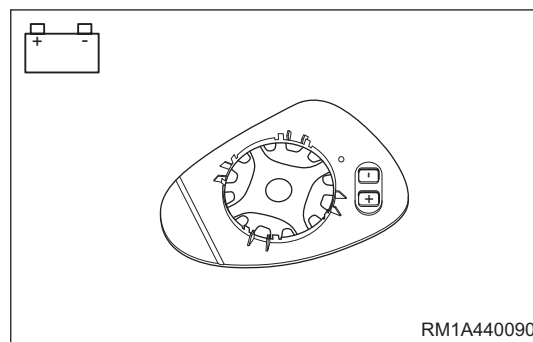
45 - REAR VIEW MIRROR

Inspection

1. Check the outside rear view mirror lens assembly.
 - a. Apply battery voltage to terminals of outside rear view mirror lens assembly connector, and check operation of outside rear view mirror lens assembly according to table below.

Measurement Condition		Specified Condition
Battery positive (+)	Battery negative (-)	Outside rear view mirror lens becomes warm

If result is not as specified, replace outside rear view mirror lens assembly.

**Installation**

Installation is in the reverse order of removal.

CAUTION

- Make sure outside rear view mirror lens assembly can move smoothly, flexibly and reliably after installation.

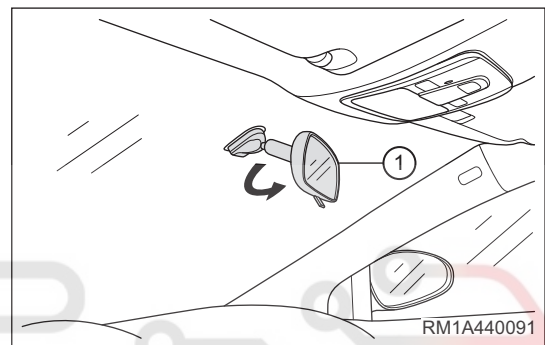
Inside Rear View Mirror Assembly

Removal

CAUTION

- Appropriate force should be applied when removing inside rear view mirror assembly. Be careful not to operate roughly.
- Try to prevent front windshield assembly from being scratched, when removing inside rear view mirror assembly.

1. Remove the inside rear view mirror assembly.
 - a. Hold inside rear view mirror assembly base with one hand and turn inside rear view mirror assembly with the other.
 - b. Remove inside rear view mirror assembly (1) in direction of arrow as shown in illustration.



Installation

Installation is in the reverse order of removal.

CAUTION

- Make sure inside rear view mirror assembly can move smoothly, flexibly and reliably after installation.

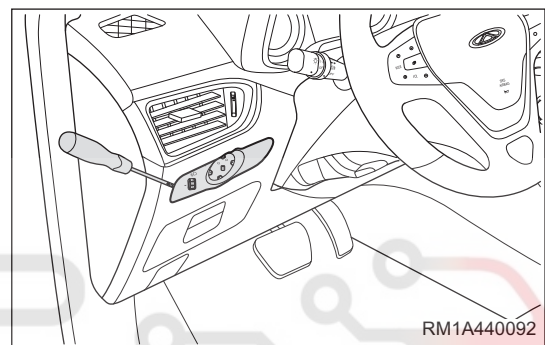
Outside Rear View Mirror Adjustment Switch

Removal

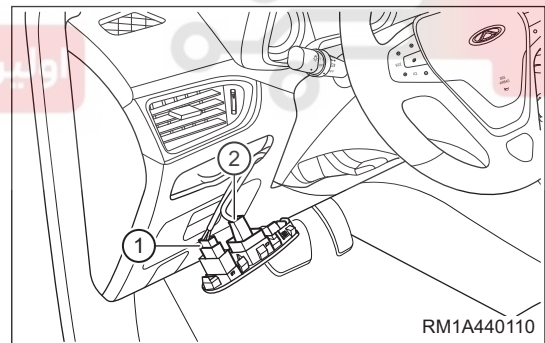
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing outside rear view mirror adjustment switch.
- Try to prevent front left door inner protector assembly from being scratched, when removing outside rear view mirror adjustment switch.

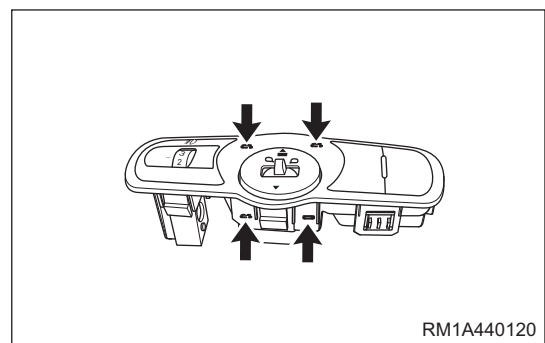
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the outside rear view mirror adjustment switch.
 - a. Using a screwdriver wrapped with protective tape, pry off outside rear view mirror control master switch assembly.



- b. Disconnect the headlight leveling switch connector (1).
- c. Disconnect the outside rear view mirror adjustment switch connector (2).



- d. Using a screwdriver wrapped with protective tape, detach claws (arrow) from outside rear view mirror adjustment switch.



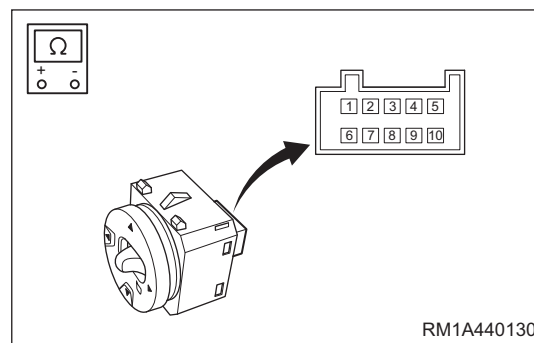
- e. Remove the outside rear view mirror adjustment switch.

Inspection

1. Check the outside rear view mirror adjustment switch.
 - a. Adjust outside rear view mirror adjustment switch to "L" position.
 - b. Using a digital multimeter, check for continuity between terminals of outside rear view mirror adjustment switch according to table below.

Multimeter Connection	Switch Condition	Specified Condition
Terminal 6 - Terminal 3	UP	Continuity
Terminal 1 - Terminal 7	UP	Continuity
Terminal 5 - Terminal 7	DOWN	Continuity
Terminal 1 - Terminal 3	DOWN	Continuity
Terminal 5 - Terminal 7	LEFT	Continuity
Terminal 6 - Terminal 3	LEFT	Continuity
Terminal 6 - Terminal 7	RIGHT	Continuity
Terminal 3 - Terminal 5	RIGHT	Continuity

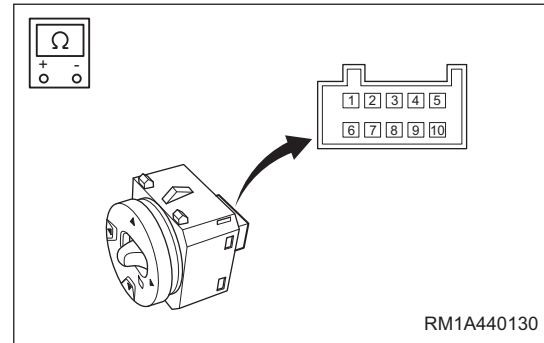
If result is not as specified, replace outside rear view mirror adjustment switch.



45 - REAR VIEW MIRROR

- c. Adjust outside rear view mirror adjustment switch to "R" position.
- d. Using a digital multimeter, check for continuity between terminals of outside rear view mirror adjustment switch according to table below.

Multimeter Connection	Switch Condition	Specified Condition
Terminal 2 - Terminal 3	UP	Continuity
Terminal 1 - Terminal 7	UP	Continuity
Terminal 4 - Terminal 7	DOWN	Continuity
Terminal 1 - Terminal 3	DOWN	Continuity
Terminal 4 - Terminal 7	LEFT	Continuity
Terminal 2 - Terminal 3	LEFT	Continuity
Terminal 2 - Terminal 7	RIGHT	Continuity
Terminal 3 - Terminal 4	RIGHT	Continuity



If result is not as specified, replace outside rear view mirror adjustment switch.

Installation

Installation is in the reverse order of removal.

CAUTION

- Operate carefully to prevent damage to other components, when installing outside rear view mirror adjustment switch.
- Connect connectors in place, when installing outside rear view mirror adjustment switch.
- Check that switch can operate normally, after installing outside rear view mirror adjustment switch.

INSTRUMENT PANEL

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Auxiliary Fascia Console Assembly	46-8	Instrument Panel Crossmember	
Removal	46-8	Assembly	46-21
Disassembly	46-11	Removal	46-21
Assembly	46-12	Installation	46-25

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

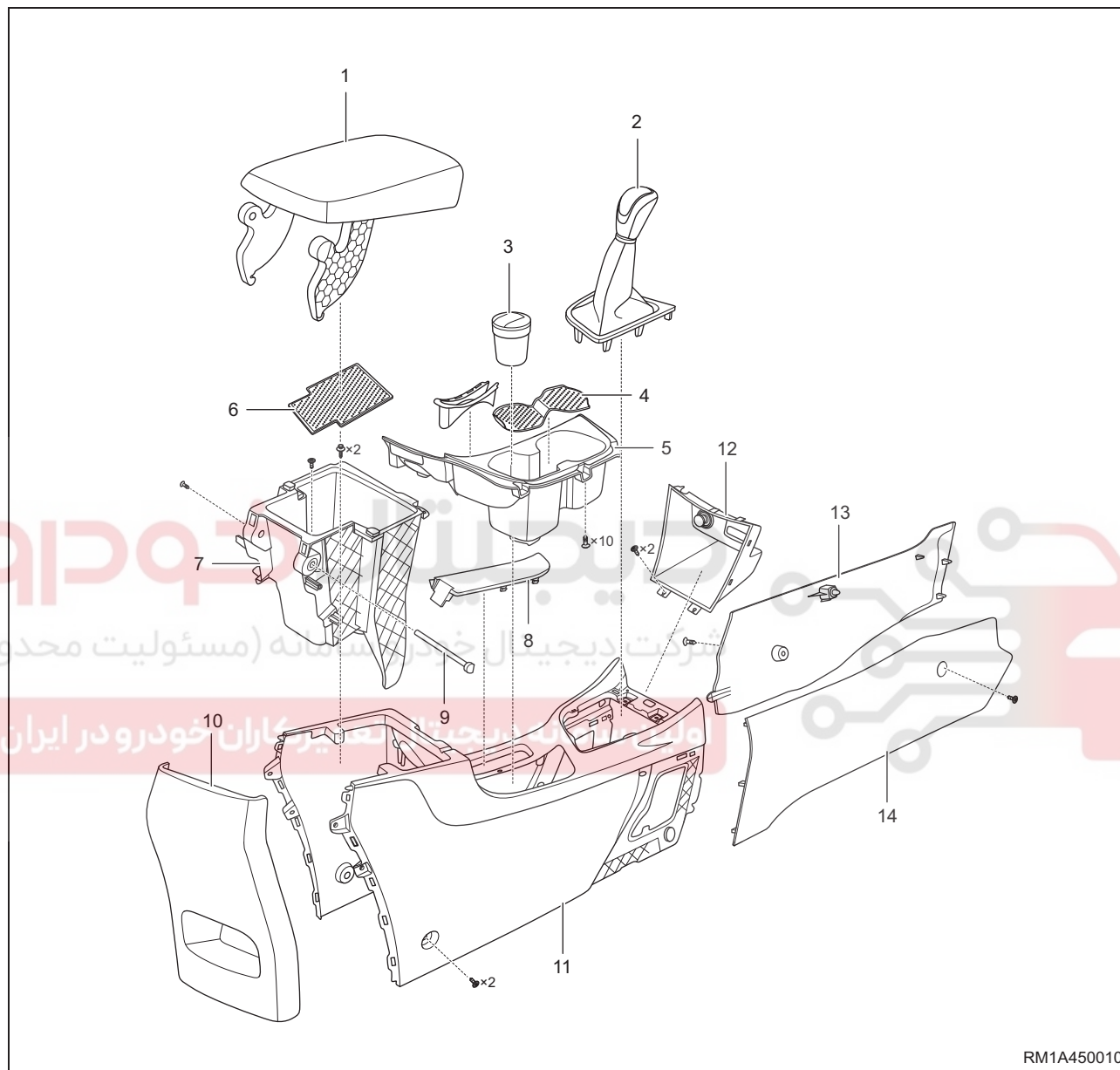
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



GENERAL INFORMATION

Description

Auxiliary Fascia Console Assembly



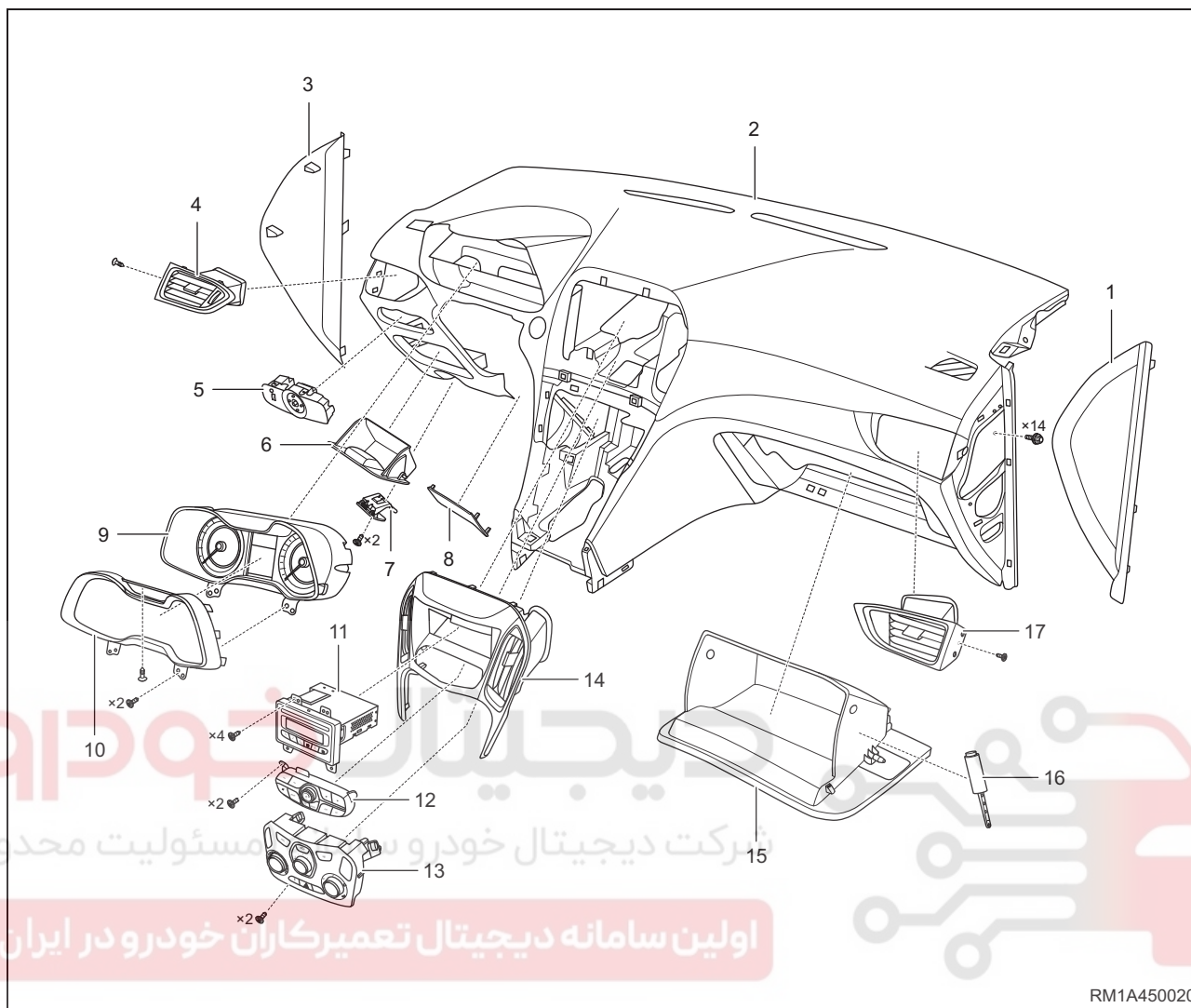
RM1A450010

46

1 - Armrest Box Cover Assembly	2 - Shift Knob and Boot Assembly
3 - Portable Ashtray Assembly	4 - Cup Holder Mat
5 - Cup Holder Assembly	6 - Auxiliary Fascia Console Mat
7 - Armrest Box Assembly	8 - Parking Brake Protector Assembly
9 - Armrest Box Cover Set Shaft	10 - Auxiliary Fascia Console Rear Panel Assembly
11 - Auxiliary Fascia Console Assembly	12 - Lower Center Storage Box Assembly
13 - Auxiliary Fascia Console Front Left Extension Panel Assembly	14 - Auxiliary Fascia Console Front Right Extension Panel Assembly

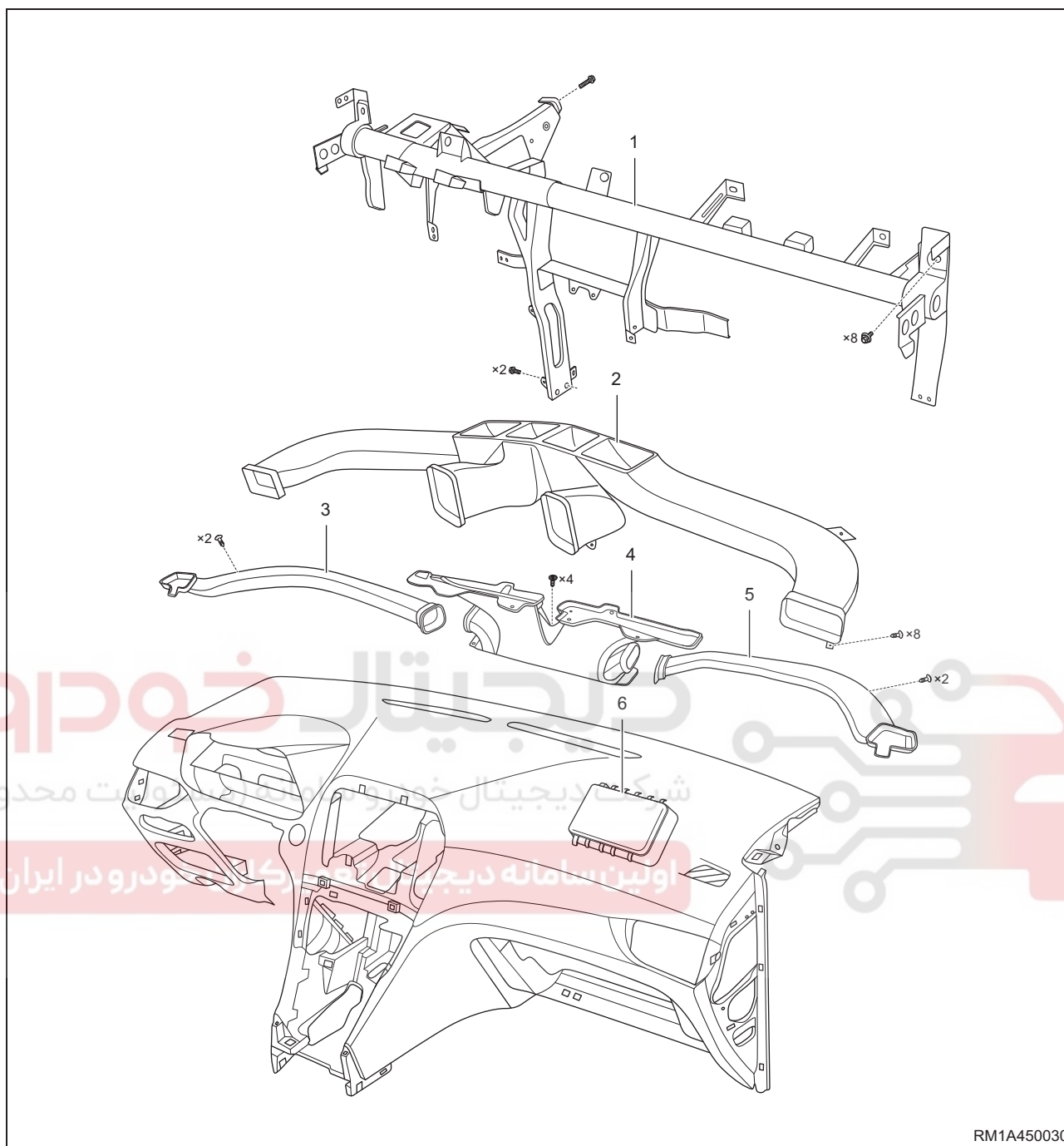
46 - INSTRUMENT PANEL

Instrument Panel Assembly



46

1 - Instrument Panel Right End Cover Assembly	2 - Instrument Panel Assembly
3 - Instrument Panel Left End Cover Assembly	4 - Instrument Panel Left Outlet Assembly
5 - Headlight Leveling Switch Assembly	6 - Instrument Panel Lower Left Storage Box Assembly
7 - Fuel Filler Lid Opener Assembly	8 - Instrument Panel Lower Left Protector Assembly
9 - Instrument Cluster	10 - Instrument Cluster Front Cover
11 - Disc-less CD	12 - Disc-less CD Control Panel
13 - Center Control Integration Panel	14 - Center Control Panel Assembly
15 - Glove Box Assembly	16 - Air Damper Assembly
17 - Instrument Panel Right Outlet Assembly	



RM1A450030

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1 - Instrument Panel Crossmember Assembly	2 - Face Air Duct Assembly
3 - Left Defroster Duct Assembly	4 - Center Defroster Duct Assembly
5 - Right Defroster Duct Assembly	6 - Front Passenger Airbag Assembly

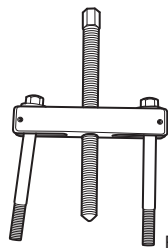
On this model, instrument panel consists of auxiliary fascia console assembly, instrument panel assembly and instrument panel crossmember system.

Specifications

Torque Specifications

Description	Torque (N·m)
Auxiliary Fascia Console Front Right Extension Panel Assembly Fixing Screw	1.5 ± 0.5
Center Control Integration Panel Assembly Fixing Screw	1.5 ± 0.5
Auxiliary Fascia Console Assembly Fixing Screw	1.5 ± 0.5
Auxiliary Fascia Console Assembly Fixing Bolt	5 ± 1
Auxiliary Fascia Console Rear Bracket Assembly Fixing Bolt	7 ± 1
Cup Holder Assembly Fixing Screw	1.5 ± 0.5
Armrest Box Cover Assembly Fixing Screw	1.5 ± 0.5
Armrest Box Assembly Fixing Screw	1.5 ± 0.5
Rear Ashtray Assembly Fixing Screw	1.5 ± 0.5
Fuel Filler Lid Opener Assembly Fixing Screw	1.5 ± 0.5
Instrument Panel Lower Left Protector Assembly Fixing Screw	1.5 ± 0.5
Diagnostic Interface Fixing Screw	1.5 ± 0.5
Glove Box Rear Trim Cover Fixing Screw	1.5 ± 0.5
Front Passenger Airbag Assembly Fixing Bolt	10 ± 2
Instrument Panel Assembly Fixing Bolt	7 ± 1.5
Combined Antenna Fixing Screw	1.5 ± 0.5
Face Air Duct Assembly Fixing Screw	1.5 ± 0.5
Instrument Panel Outlet Assembly Fixing Screw	1.5 ± 0.5
Defroster Duct Assembly Fixing Screw	1.5 ± 0.5
Center Defroster Duct Assembly Fixing Screw	1.5 ± 0.5
Instrument Panel Fuse Box Fixing Screw	1.5 ± 0.5
Body Control Module (BCM) Fixing Bolt	6 ± 1
Steering Column Assembly Fixing Bolt	25 ± 3
Ground Wire Harness Fixing Nut	7 ± 1
Instrument Panel Crossmember Assembly Lower Fixing Bolt	9 ± 1.5
Instrument Panel Crossmember Assembly Upper Fixing Bolt	23 ± 2.5

Tool**Special Tool**

Steering Wheel Remover	 RCH0000014
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دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



ON-VEHICLE SERVICE

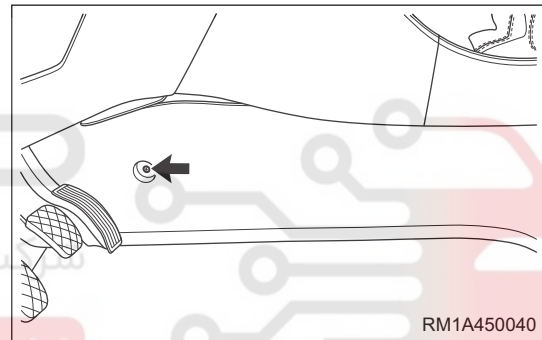
Auxiliary Fascia Console Assembly

Removal

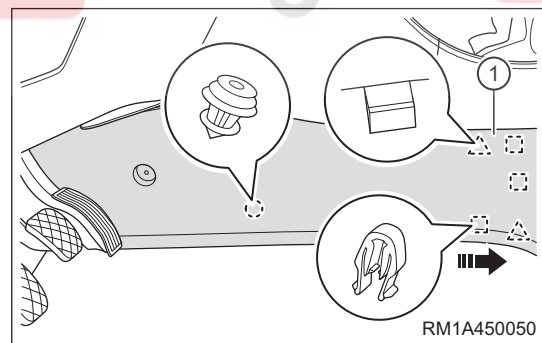
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing auxiliary fascia console assembly.
- Appropriate force should be applied, when removing auxiliary fascia console assembly. Be careful not to operate roughly.
- DO NOT scratch interior and body paint, when removing auxiliary fascia console assembly.

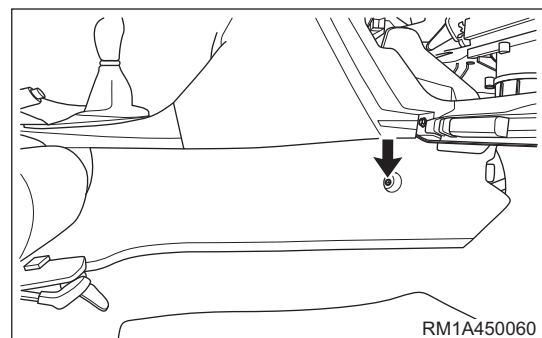
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the auxiliary fascia console front left extension panel assembly.
 - a. Remove fixing screw (arrow) from auxiliary fascia console front left extension panel assembly.



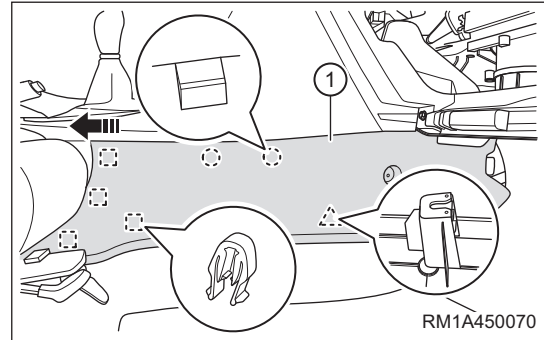
- b. Using a screwdriver wrapped with protective tape, pry off clips from auxiliary fascia console front left extension panel assembly as shown in illustration.
Remove auxiliary fascia console front left extension panel assembly (1) in direction of arrow as shown in illustration.



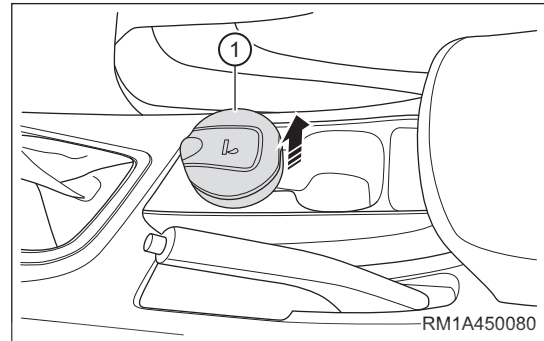
4. Remove the auxiliary fascia console front right extension panel assembly.
 - a. Remove fixing screw (arrow) from auxiliary fascia console front right extension panel assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)



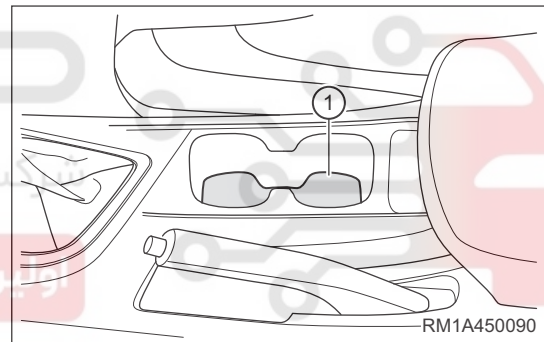
- b. Using a screwdriver wrapped with protective tape, pry off clips from auxiliary fascia console front right extension panel assembly, and remove auxiliary fascia console front right extension panel assembly (1) in direction of arrow as shown in illustration.



5. Remove portable ashtray assembly (1) in direction of arrow as shown in illustration.

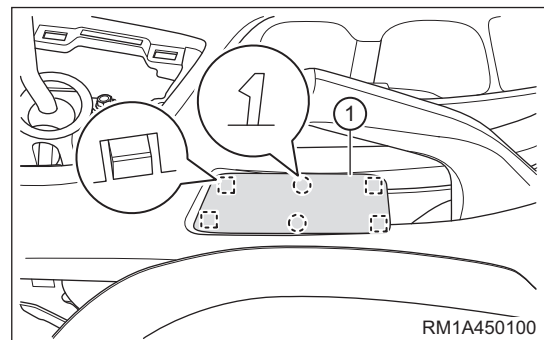


6. Remove the cup holder mat (1).



7. Remove the shift knob cover (See page 40-28).
 8. Remove the lower center storage box assembly (See page 46-8).
 9. Remove the center control integration panel assembly (See page 30-28).
 10. Remove the parking brake protector assembly.

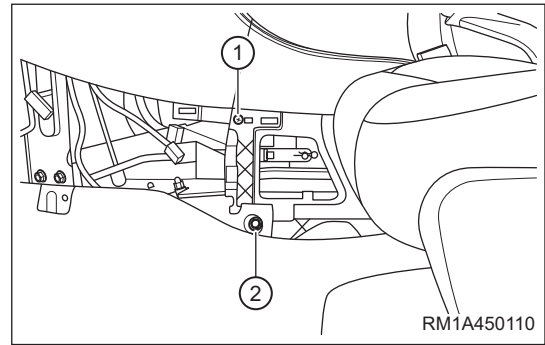
- a. Using a screwdriver wrapped with protective tape, pry off clips from parking brake protector assembly, and remove parking brake protector assembly (1).



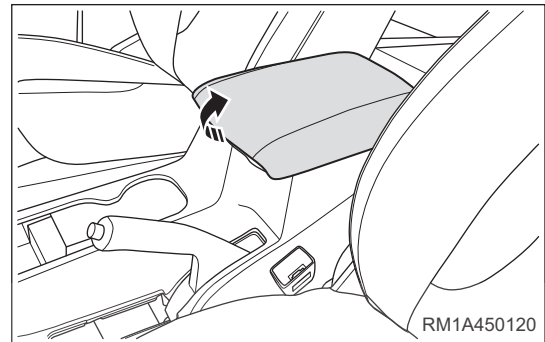
46 - INSTRUMENT PANEL

11. Remove the auxiliary fascia console assembly (take left side as an example).

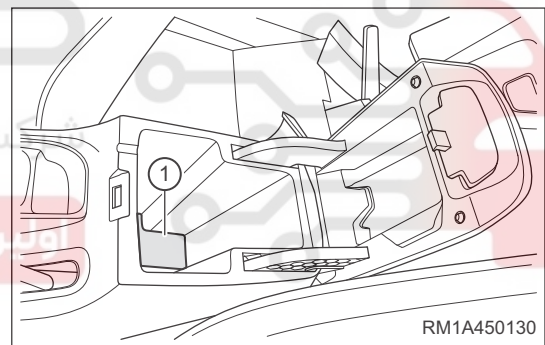
- a. Remove fixing screw (1) and fixing bolt (2) from left side of auxiliary fascia console assembly.
(Tightening torque: 1.5 ± 0.5 N·m)



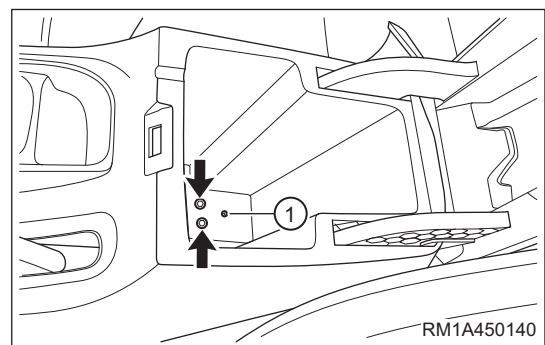
- b. Open armrest box cover in direction of arrow as shown in illustration.



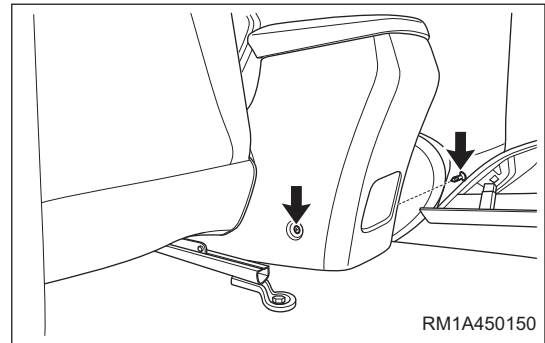
- c. Remove the auxiliary fascia console mat (1).



- d. Remove 2 fixing bolts (arrow) and fixing screw (1) from inside of auxiliary fascia console assembly.
(Tightening torque: 5 ± 1 N·m)

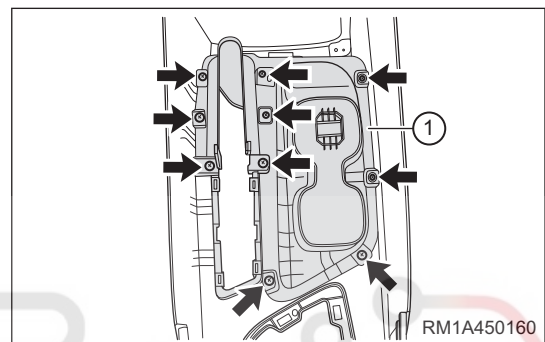


- e. Move front seat assembly to foremost position (take left side as an example).
- f. Remove 2 fixing screws (arrow) from rear side of auxiliary fascia console assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)

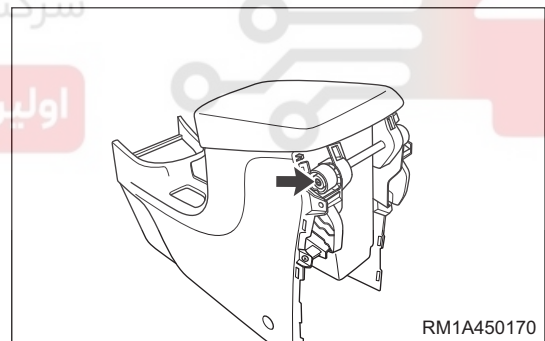


Disassembly

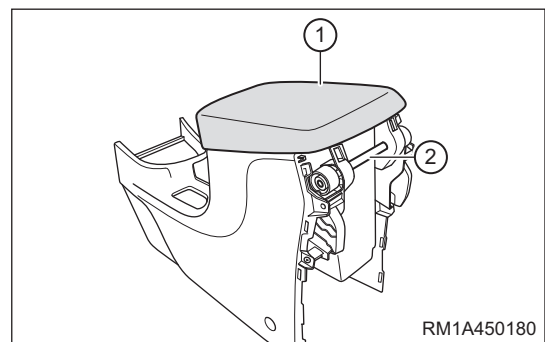
1. Remove the cup holder assembly.
 - a. Remove 10 fixing screws (arrow) from cup holder assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)
 - b. Remove cup holder assembly (1) from auxiliary fascia console assembly.



2. Remove the armrest box cover assembly.
 - a. Remove fixing screw (arrow) from armrest box cover assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)

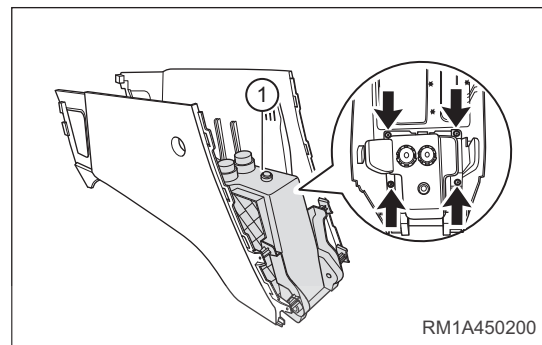
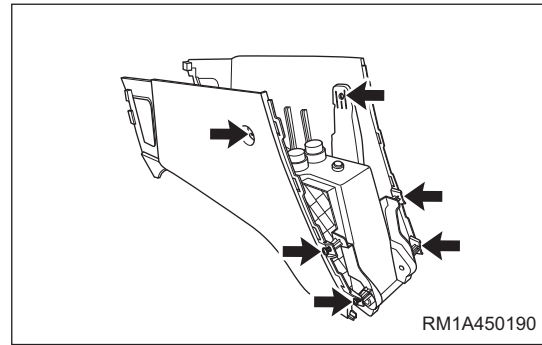


- b. Remove armrest box cover set shaft (2), and remove armrest box cover assembly (1) from auxiliary fascia console assembly.



46 - INSTRUMENT PANEL

3. Remove the armrest box assembly.
 - a. Remove 6 fixing screws (arrow) from outside of armrest box assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)
 - b. Remove 5 fixing screws (arrow) from inside of armrest box assembly, and remove armrest box cover assembly (1) from auxiliary fascia console assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)

**Assembly**

Assembly is in the reverse order of disassembly.

Installation

Installation is in the reverse order of removal.

**CAUTION**

- Be sure to tighten fixing bolts and fixing screws to specified torque, when installing auxiliary fascia console assembly.
- Check each electrical equipment for proper operation, after installing auxiliary fascia console assembly.

Instrument Panel Assembly

Removal

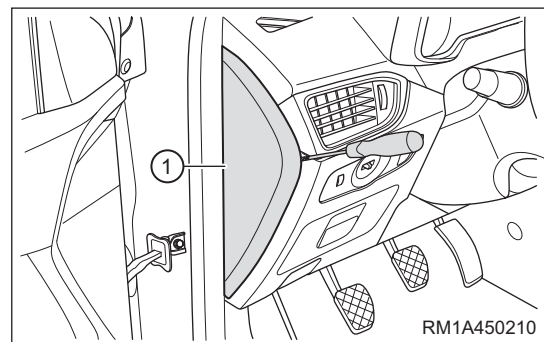
⚠ WARNING

- Wait at least 60 seconds after disconnecting the negative battery cable to disable supplementary restraint system.
- When removing instrument panel assembly, all components related to airbag should be operated with battery power off. Never operate with power on. Because within 60 seconds after engine stalls or fuse is removed, there is still enough power remaining in the airbag control module for activating airbag, and the airbag can be accidentally activated, causing personal injury or vehicle damage.
- Never expose airbag components directly to hot air or open flames.
- Removed airbag should be well kept. If triggered accidentally, it may cause personal injury.

👁 CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing instrument panel assembly.
- DO NOT scratch interior and body paint, when removing instrument panel assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the auxiliary fascia console assembly (See page 46-8).
4. Remove the instrument cluster (See page 39-49).
5. Remove the steering wheel assembly (See page 28-10).
6. Remove the spiral cable (See page 31-92).
7. Remove the combination switch cover (See page 28-13).
8. Remove the wiper switch assembly (See page 37-20).
9. Remove the combination light switch assembly (See page 36-83).
10. Remove the A-pillar upper protector assembly (See page 50-15).
11. Remove the center control integration panel assembly (See page 30-28).
12. Remove the No Disc CD control panel (See page 40-28).
13. Remove the No Disc CD (See page 40-32).
14. Remove the instrument panel left end cover assembly (take left side as an example).
 - a. Using a screwdriver wrapped with protective tape, pry off clips from instrument panel left end cover assembly, and remove instrument panel left end cover assembly (1).

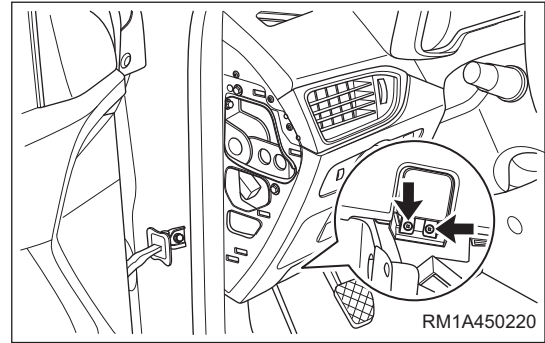


15. Remove the headlight leveling switch assembly (See page 36-86).

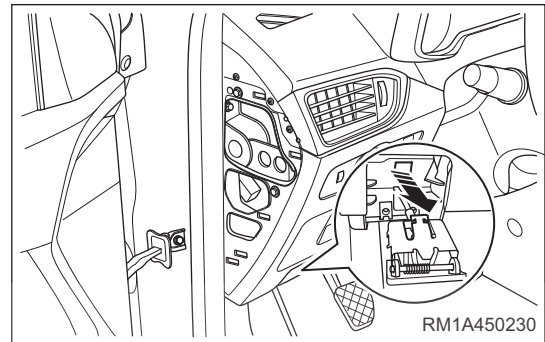
46 - INSTRUMENT PANEL

16. Remove the fuel filler lid opener assembly.

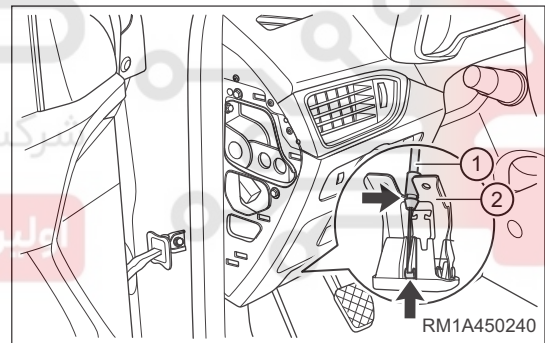
- a. Remove 2 fixing screws (arrow) from fuel filler lid opener assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)



- b. Disengage fuel filler lid opener assembly from slot in direction of arrow as shown in illustration.

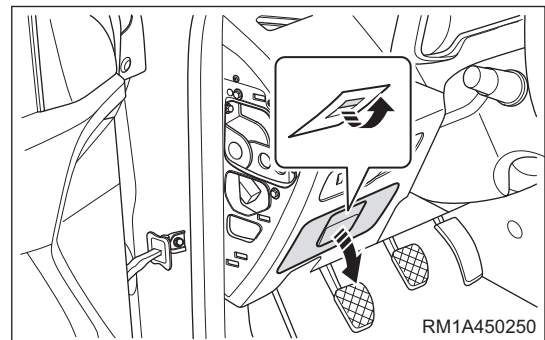


- c. Disengage fuel filler lid cable from slot (arrow) to separate fuel filler lid cable (1) from fuel filler lid opener assembly (2).

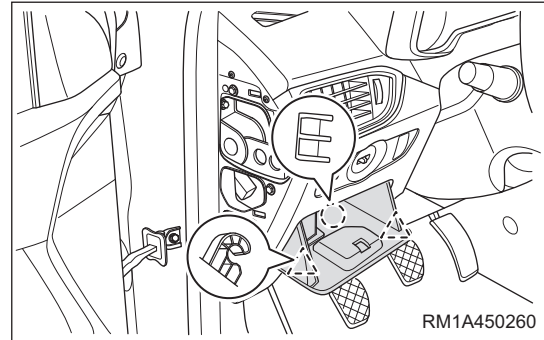


17. Remove the instrument panel lower left storage box assembly.

- a. Open instrument panel lower left storage box assembly in directions of arrows as shown in illustration.

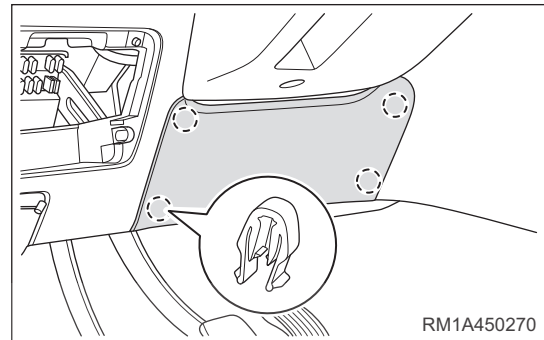


- b. Disengage claws on instrument panel lower left storage box assembly, and remove instrument panel lower left storage box assembly.



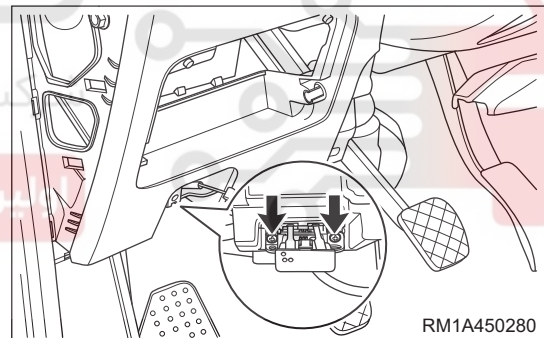
18. Remove the instrument panel left lower protector assembly.

- a. Using a screwdriver wrapped with protective tape, pry off clips from instrument panel lower left protector assembly, and remove instrument panel lower left protector assembly.



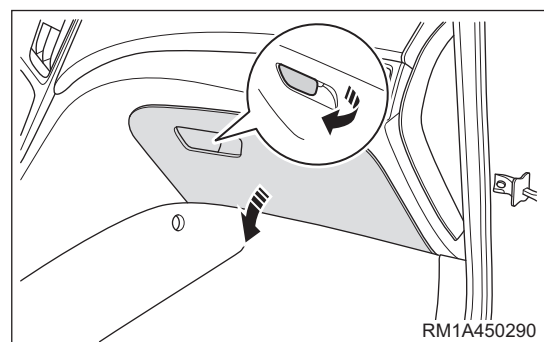
19. Separate the diagnostic interface.

- a. Remove 2 fixing screws (arrow) from diagnostic interface, and separate diagnostic interface.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)



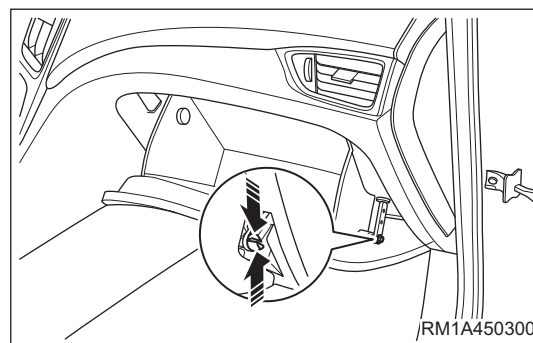
20. Remove the glove box assembly.

- a. Open glove box assembly in directions of arrows as shown in illustration.

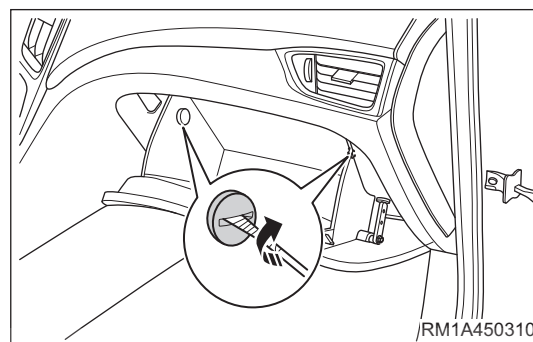


46 - INSTRUMENT PANEL

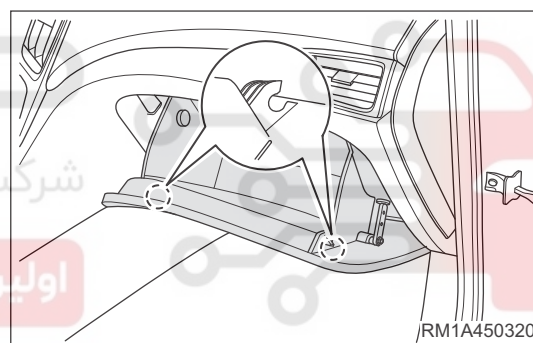
- b. Press claw on glove box assembly in directions of arrows as shown in illustration to separate glove box assembly and damper.



- c. Rotate lock knob in direction of arrow as shown in illustration, and remove lock knob.

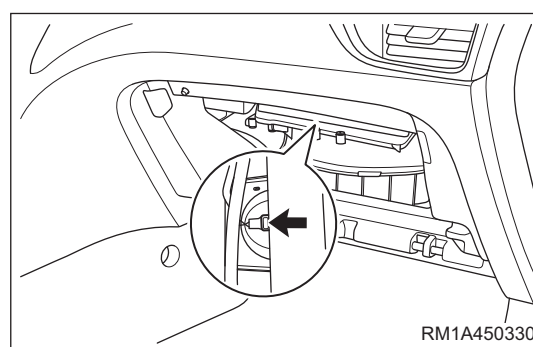


- d. Disengage claws on lower side of glove box assembly, and remove glove box assembly.

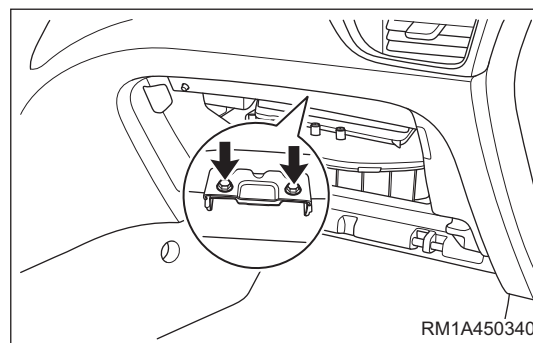


21. Release the front passenger airbag assembly.

- a. Disconnect the front passenger airbag connector (arrow).

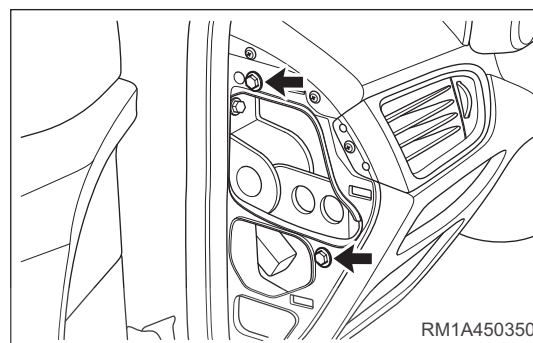


- b. Remove 2 fixing bolts (arrow) from front passenger airbag assembly.
(Tightening torque: 10 ± 2 N·m)

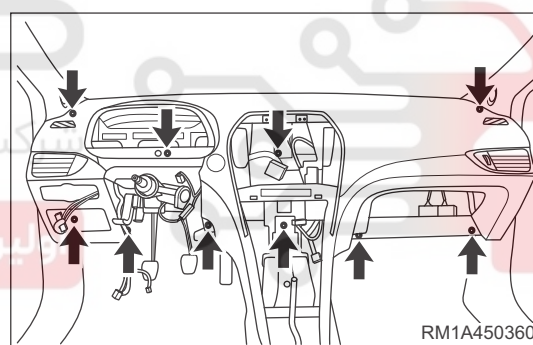


22. Remove the instrument panel assembly.

- a. Remove 2 fixing bolts (arrow) from left side of instrument panel assembly (take left side as an example).
(Tightening torque: 7 ± 1.5 N·m)



- b. Remove 10 fixing bolts (arrow) from front side of instrument panel assembly, and remove instrument panel assembly.
(Tightening torque: 7 ± 1.5 N·m)

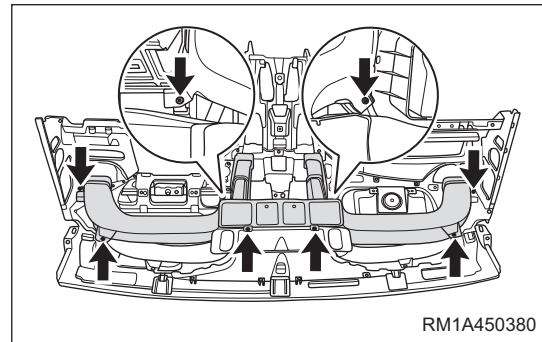


Disassembly

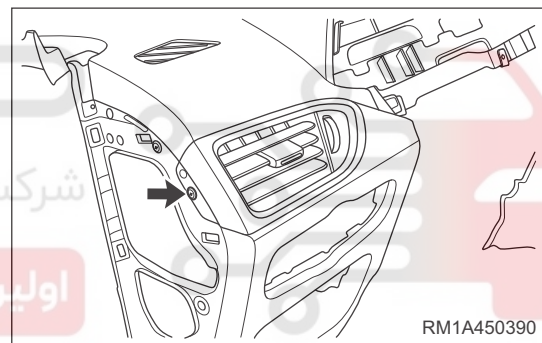
 CAUTION

- Be sure to wear safety equipment to prevent accidents, when disassembling instrument panel assembly.
- DO NOT scratch instrument panel surface, when disassembling instrument panel assembly.

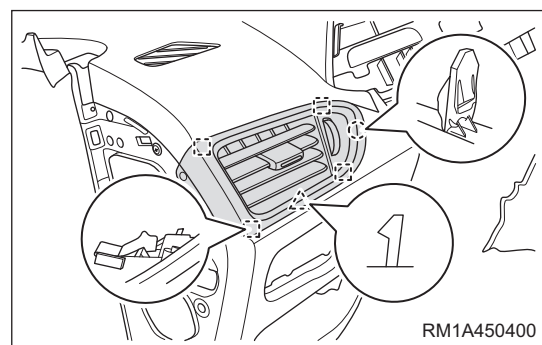
1. Remove the face air duct assembly.
 - a. Remove 8 fixing screws (arrow) from face air duct assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)
 - b. Remove face air duct assembly from instrument panel assembly.



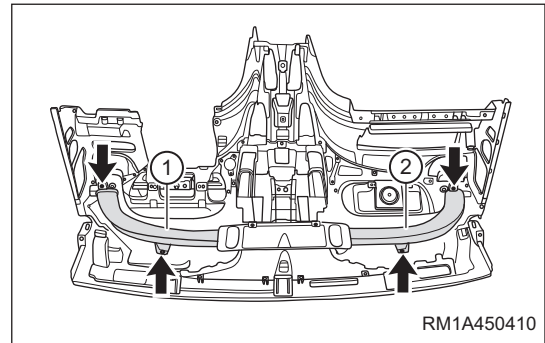
2. Remove the instrument panel left outlet assembly (take left side as an example).
 - a. Remove fixing screw (arrow) from instrument panel outlet assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)



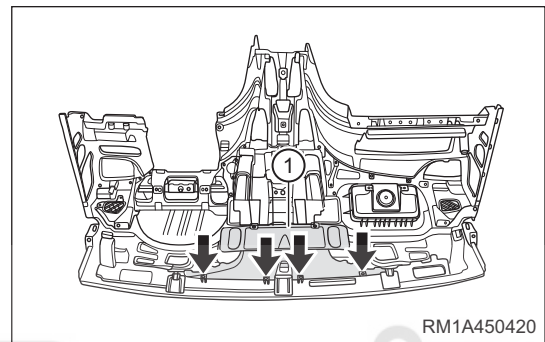
- b. Using a screwdriver wrapped with protective tape, pry off clips from instrument panel outlet assembly.
- c. Remove instrument panel left outlet assembly from instrument panel assembly.



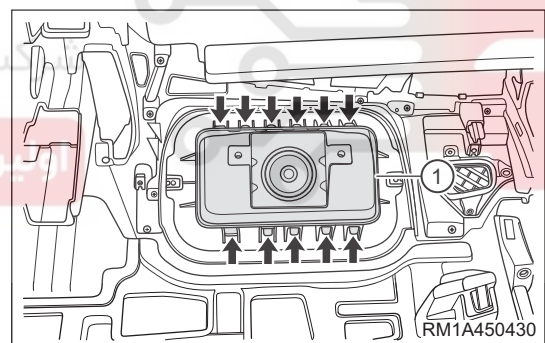
3. Remove the defroster duct assembly.
 - a. Remove 4 fixing screws (arrow) from defroster duct assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)
 - b. Remove left defroster duct assembly (1) and right defroster duct assembly (2) from instrument panel assembly.



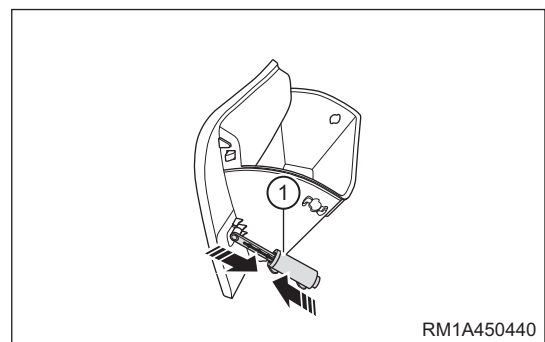
4. Remove the center defroster duct assembly.
 - a. Remove 4 fixing screws (arrow) from center defroster duct assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)
 - b. Remove center defroster duct assembly (1) from instrument panel assembly.



5. Remove the front passenger airbag assembly.
 - a. Disengage claws (arrow) from front passenger airbag assembly.
 - b. Remove front passenger airbag assembly (1) from instrument panel assembly.



6. Remove the air damper assembly.
 - a. Press claws on glove box rear trim cover in directions of arrows as shown in illustration.
 - b. Remove air damper assembly (1) from glove box rear trim cover.



Assembly

Assembly is in the reverse order of disassembly.

Installation

Installation is in the reverse order of removal.

CAUTION

- Be sure to tighten fixing bolts and fixing screws to specified torque, when installing instrument panel assembly.
- Check airbag for proper installation, after installing instrument panel assembly.
- Check each electrical equipment for proper operation, after installing instrument panel assembly.

دیجیتال خودرو
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



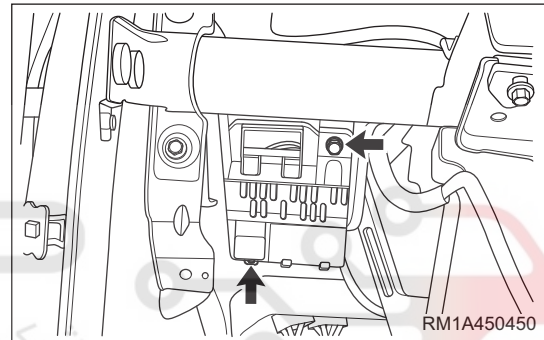
Instrument Panel Crossmember Assembly

Removal

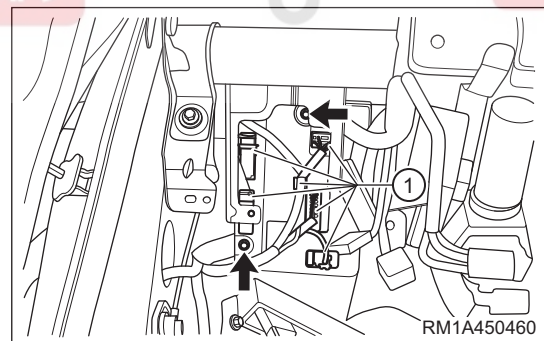
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing instrument panel crossmember assembly.
- DO NOT scratch interior and body paint, when removing instrument panel crossmember assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the instrument panel assembly (See page 46-13).
4. Remove the front windshield lower garnish assembly (See page 49-28).
5. Remove the instrument panel fuse box.
 - a. Remove 2 fixing screws (arrow) from instrument panel fuse box.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)



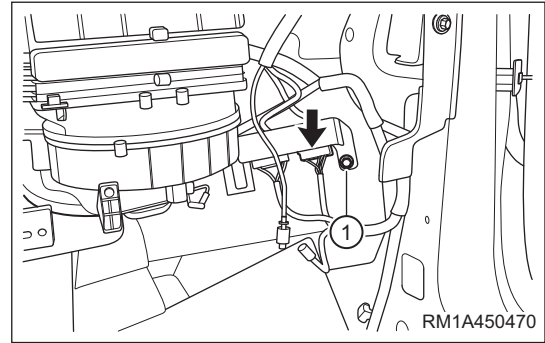
- b. Separate instrument panel fuse box from instrument panel bracket.
6. Remove the Body Control Module (BCM).
 - a. Disconnect the Body Control Module (BCM) connector (1).
 - b. Remove 2 fixing bolts (arrow) from Body Control Module (BCM), and remove Body Control Module (BCM).
(Tightening torque: $6 \pm 1 \text{ N}\cdot\text{m}$)



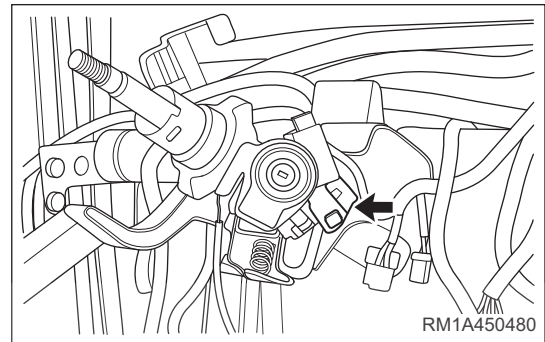
46 - INSTRUMENT PANEL

7. Remove instrument panel wire harness and front right door wire harness connector.

- a. Disconnect instrument panel wire harness and front right door wire harness connector (arrow).
- b. Remove fixing bolt (1) from instrument panel wire harness and front right door wire harness connector.
(Tightening torque: 7 ± 1 N·m)

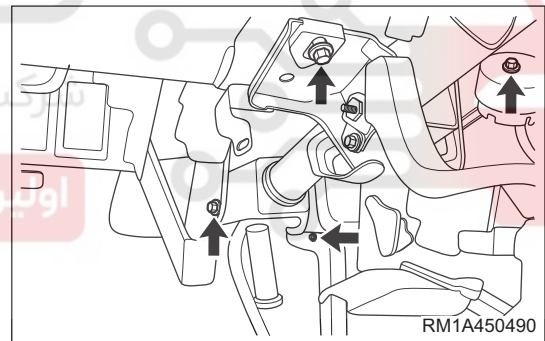


8. Disconnect the steering lock connector (arrow).



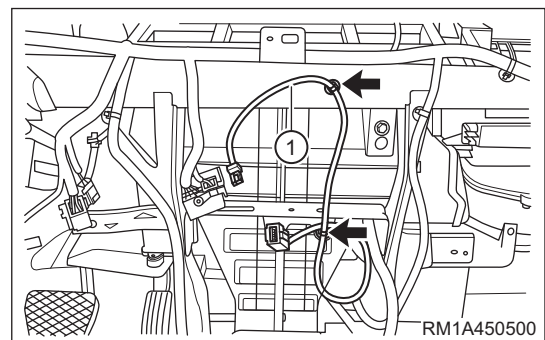
9. Separate the steering column assembly.

- a. Remove 4 fixing bolts (arrow) from steering column assembly.
(Tightening torque: 25 ± 3 N·m)
- b. Separate steering column assembly from instrument panel crossmember.



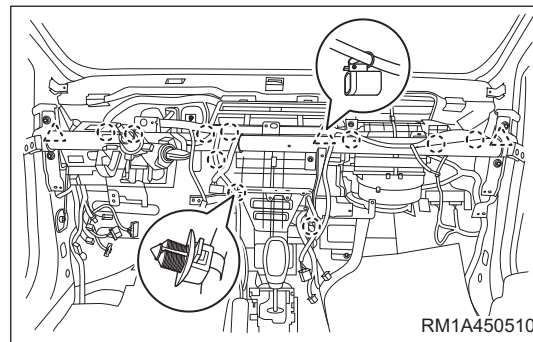
10. Remove the USB data cable.

- a. Disengage 2 clips from front low frequency antenna, and remove front low frequency antenna (1).

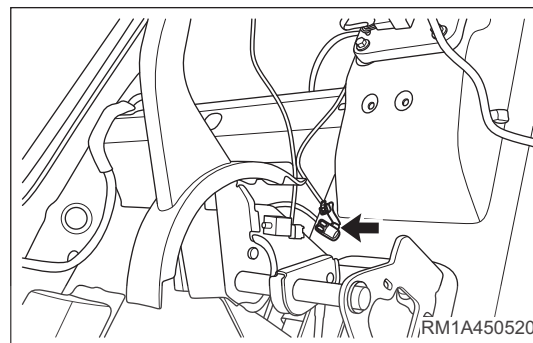


11. Remove the instrument panel crossmember assembly.

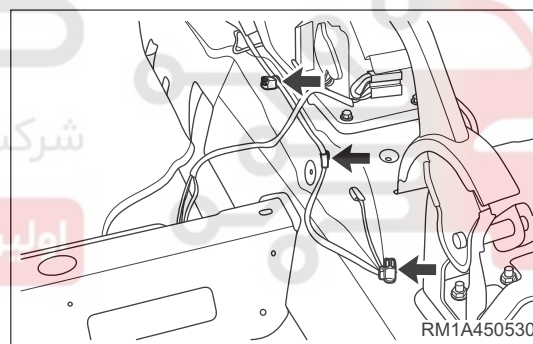
- a. Disengage clips from instrument panel front wire harness.



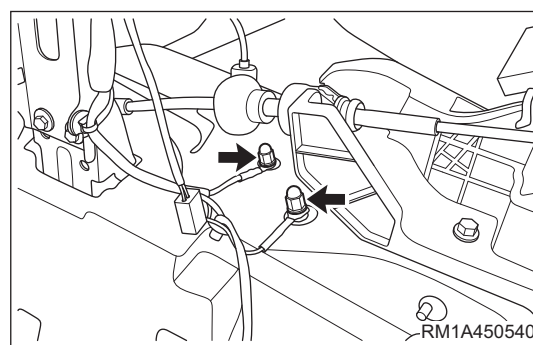
- b. Disconnect the parking brake switch connector (arrow).



- c. Disengage clips from instrument panel side wire harness.

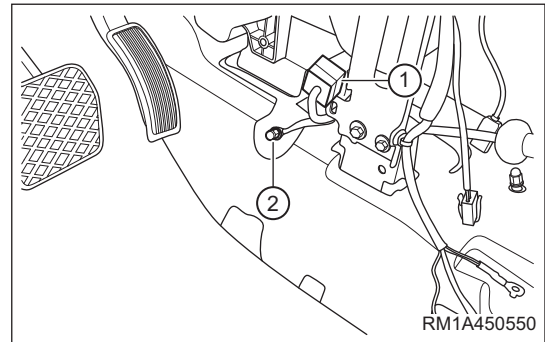


- d. Remove 2 ground wire fixing screws (arrow) from instrument panel wire harness assembly.

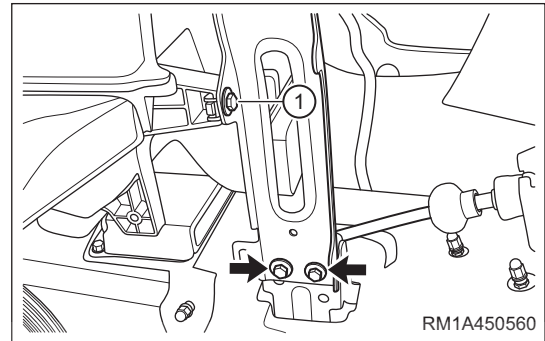


46 - INSTRUMENT PANEL

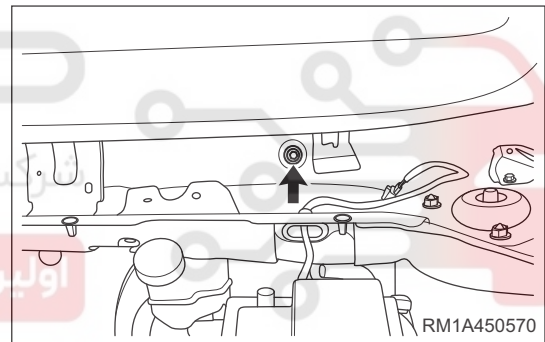
- e. Disconnect airbag control module connector (1), and remove airbag ground wire fixing screw (2).



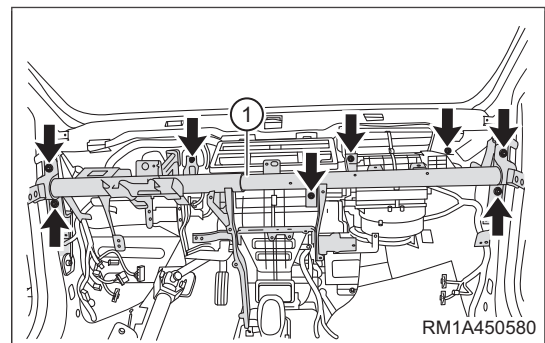
- f. Remove 2 fixing bolts (arrow) from lower part of instrument panel crossmember assembly, and remove fixing bolt (1) between instrument panel crossmember assembly and HVAC. (Tightening torque: $9 \pm 1.5 \text{ N}\cdot\text{m}$)



- g. Remove fixing bolt (arrow) from outside of instrument panel crossmember assembly. (Tightening torque: $23 \pm 3.5 \text{ N}\cdot\text{m}$)



- h. Remove 8 fixing bolts (arrow) from upper part of instrument panel crossmember assembly, and remove instrument panel crossmember (1). (Tightening torque: $23 \pm 3.5 \text{ N}\cdot\text{m}$)



Installation

Installation is in the reverse order of removal.

CAUTION

- Be sure to tighten fixing bolts to specified torque, when installing instrument panel crossmember assembly.
- Check airbag for proper installation, after installing instrument panel crossmember assembly.
- Check each electrical equipment for proper operation, after installing instrument panel crossmember assembly.

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



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