
INTRODUCTION

SERVICE INFORMATION	02-3	Diagnosis and Troubleshooting	02-15
How to Use This Manual	02-3	Circuit Simulation Test	02-16
Preparation	02-4	Precautions for Control Module and Electrical Components Inspection	02-19
Service Operation	02-8	How to Check Connector	02-20
VEHICLE INFORMATION	02-11	CIRCUIT INFORMATION	02-22
Vehicle Identification Information	02-11	How to Read Circuit Diagram	02-22
Symbols	02-14	Circuit Diagram Index	02-26
CIRCUIT DIAGNOSIS INFORMATION	02-15	ABBREVIATION TABLE	02-28
How to Use Tester	02-15	Abbreviation Table	02-28
ECM Control System			
Troubleshooting	02-15		

SERVICE INFORMATION

How to Use This Manual

1. General information

This manual includes all necessary procedures for service operations.

These procedures can be divided into following three categories:

- Diagnosis
- Removal and installation, replacement, disassembly and assembly, inspection and adjustment
- Inspection

Following procedures are omitted from this manual. However, they must be performed.

- Use a jack or lifter to perform operations.
- Clean all removed parts.
- Perform a visual check.

This manual includes the following prompt information:

 WARNING	This indicates that injuries to you or other people may happen.
 CAUTION	This indicates that damage to repairing components may happen.
 ENVIRONMENTAL PROTECTION	Dispose of waste materials according to local regulations.
HINT	Provide additional information to help you with service operations.

2. Service procedure

Illustrations for service procedures are used to identify components, show the assembling relevance of parts, and explain the visual check for parts. Removal and installation procedures are explained in words.

Service procedures include:

- Detailed removal and installation instruction
- Illustration
- Torque specifications
- Specifications

Sometimes, the illustrations of similar models are used. In this case, minor details may be different from actual vehicle.

3. Diagnosis procedure

Diagnosis procedures are divided as below:

- Diagnostic Trouble Code (DTC)
DTC is an important hint when troubleshooting is difficult to simulate. The malfunction can be diagnosed quickly and accurately by performing specified DTC diagnosis and check.
- Problem symptoms table
Malfunction locations can be determined quickly by troubleshooting in accordance with symptom type.

4. Specifications

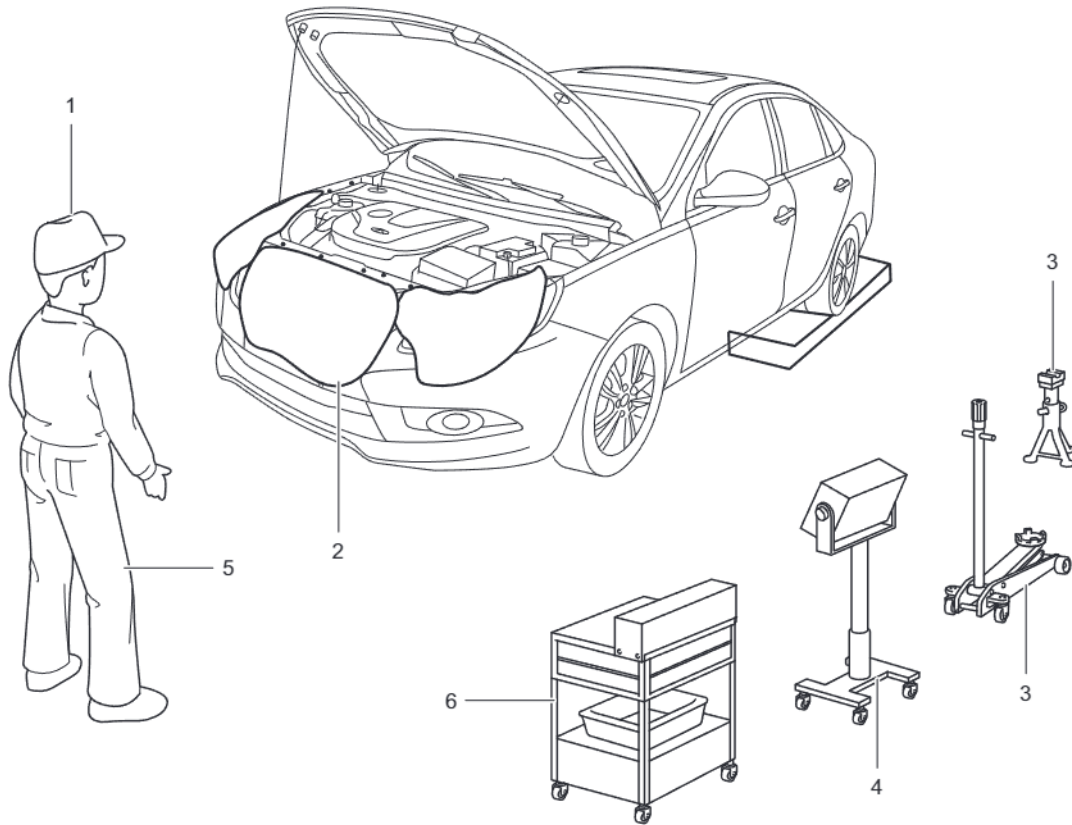
This manual categorizes specifications as below:

- Torque specifications
- Clearance specifications
- Capacity specifications

Preparation

1. Preparation for vehicle service

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1	Attire	• Always wear a clean uniform. • A hat and safety shoes must be worn.
2	Vehicle Protection	Before starting work, prepare radiator grille cover, wing cover, seat cover and floor mat.
3	Safety Operation	• When working with two or more persons, be sure to check safety each other. • When working with engine running, make sure to provide ventilation for exhausting gas in the workshop. • When repairing high temperature, high pressure, rotating, moving, or vibrating parts, be sure to wear appropriate safety equipment and take extra care not to injure yourself or others. • When jacking up vehicle, be sure to support specified location with a safety stand. • Use appropriate safety equipment to lift vehicle.
4	Preparation for Tools and Measuring Gauge	Before starting work, prepare a tool stand, special tools, gauge, oil and replacement parts.
5	Removal and Installation, Disassembly and Assembly Operations	• Diagnose after thoroughly understanding proper service procedures and reported problem. • Before removing parts, inspect general condition of assembly to confirm any deformation or damage. • Take notes for complicated assembly. For example, record total number of electrical connections, bolts or hoses that are removed. • Add matchmarks to ensure that each component is assembled to its original position. Temporarily mark hoses and their joints if necessary. • Clean and wash removed parts if necessary and assemble them after a thorough inspection.
6	Removed Parts	• Place removed parts in a separate box to avoid mixing them up with new parts or contaminating new parts. • For non-reusable parts (such as gaskets, O-rings, and self-locking nuts), replace them with new ones as instructed in this manual. • Retain removed parts for inspection, if requested by customers.

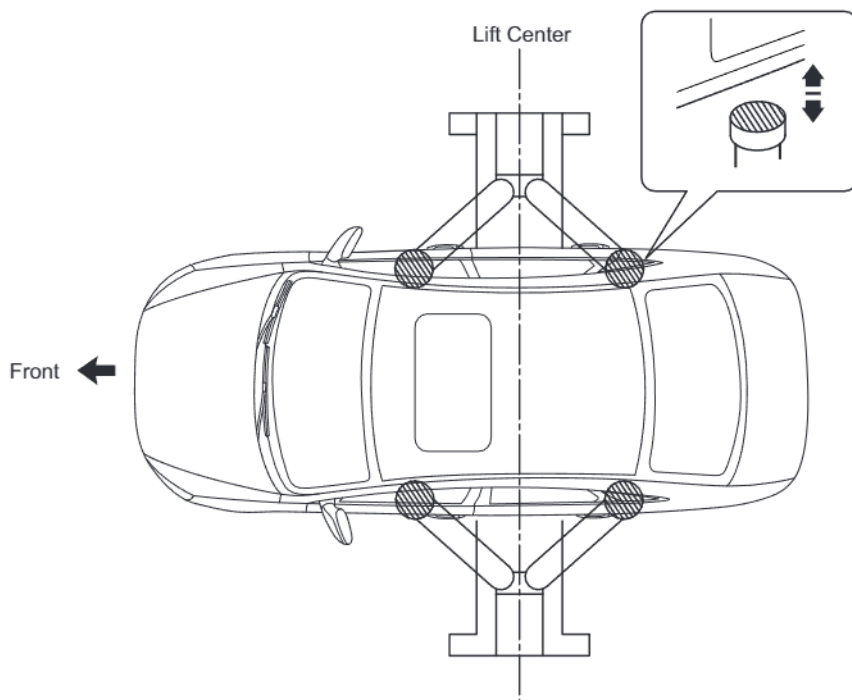
2. Jacking up and supporting vehicle

Care must be taken when jacking up and supporting vehicle. Be sure to jack up and support vehicle at proper locations.

a. Precautions for using a swing arm type lift

- Follow safety procedures described in the instruction manual.
- Keep vehicle stable when using a lift to prevent vehicle from tilting during operation. Stabilize vehicle by adjusting the length of lift arm and vehicle position.

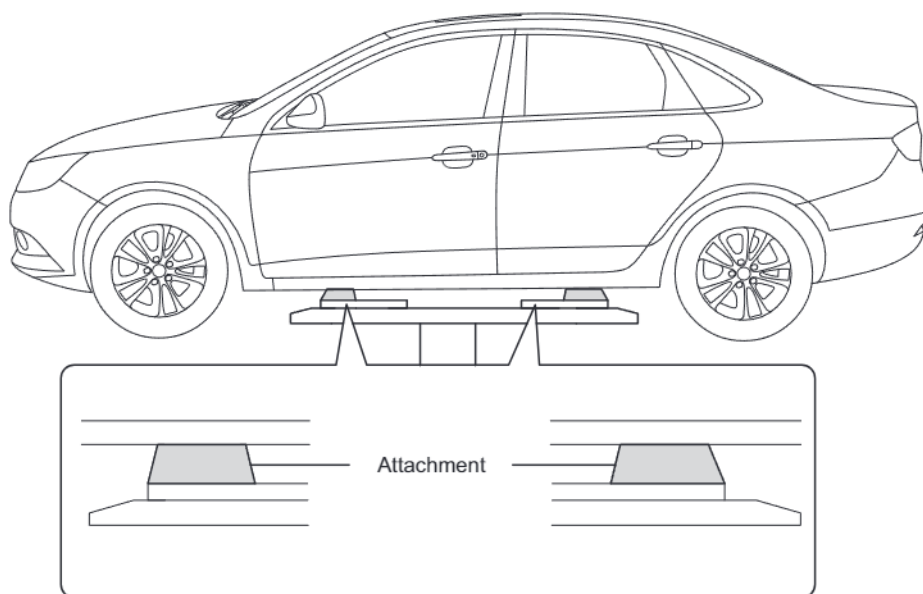
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b. Precautions for using a plate type lift

- Follow safety procedures described in the instruction manual.
- Use plate type lift attachments (rubber lifting blocks) on the plate surface.



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Service Operation

1. How to use fasteners

WARNING

- Using incorrect fasteners may cause damage to components. Injury and death may occur without observing the instructions below.

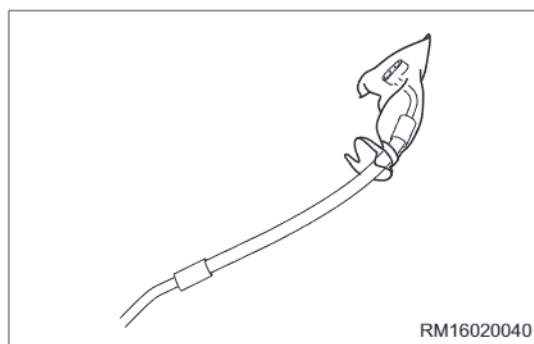
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- Reference values of fasteners and torque specifications in this service manual use metric unit.
- Recycling all fasteners (nuts, bolts, etc.) during maintenance and service operation is important for assembly.

If it is impossible to recycle fasteners, be sure to use other fasteners with the same specifications.

2. Remove parts

When repairing malfunction, try to determine the cause. Before starting work, parts or sub-assemblies that have to be removed and replaced should be confirmed first. After removing parts, block all holes and ports to prevent foreign objects from entering.



3. Disassemble components

If disassembly procedures are complicated and multiple parts need to be disassembled, make sure that disassembly methods won't affect the performance or appearance of parts. Identify each part for assembly.

4. Check parts

After removal, check each part for deformation, damage or other problems.

5. Arrange parts

Carefully arrange all disassembled parts to make assembly easier.

Always separately arrange replaced parts and reusable parts, and make marks on them.

6. Clean parts

Make a thorough and careful cleaning for reusable parts.

WARNING

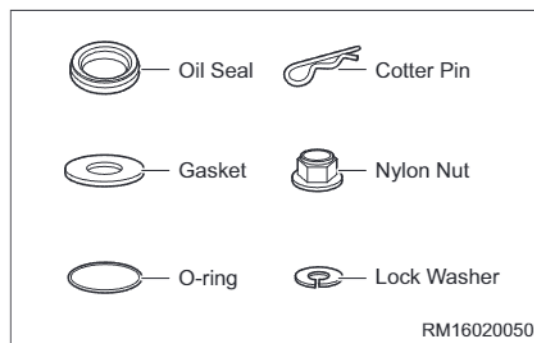
- Blowing out dirt or other particles with compressed air may hurt your eyes. Be sure to wear goggles during operation.

7. Assemble components

When assembling parts, always strictly use standard values (tightening torque and clearance value, etc.).

If following parts need to be replaced, replace them with new ones.

- Oil seal
- Gasket
- O-ring
- Lock washer
- Cotter pin
- Nylon nut



8. Lubrication and seal

Use seal gum and gasket based on position.

If seal gum is applied, install components before the seal gum dries to prevent leakage.

Apply lubricant to the movable area and friction area of components.

During assembly, apply permitted lubricant or grease to the specified area (such as oil seal).

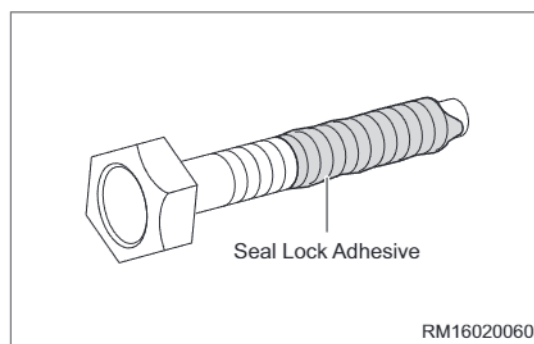
9. Adjustment

Use proper meter and tester for adjustment.

10. Pre-coated parts

Pre-coated parts are bolts and nuts that are coated with seal lock adhesive in the factory.

If a pre-coated part is retightened, loosened, or moved in any way, be sure to reapply the specified adhesive.



11. Rubber parts and rubber hoses

Avoid gasoline or oil dripping on rubber parts or rubber hoses.

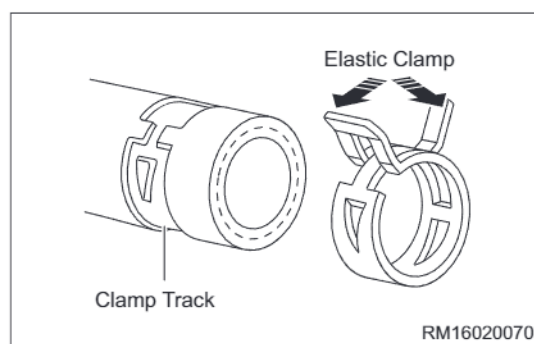
12. Hose clamp

Before removing a hose, observe the position of clamp so as to reinstall it to the same position.

Replace deformed or dented clamps with new ones.

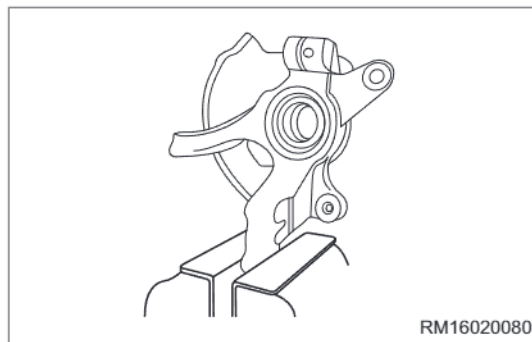
When reusing a hose, fix the clamp on the clamp track portion of hose.

For elastic clamp, push tabs in direction of arrow as shown in illustration after installation to widen the tabs slightly.



13. Vise

When using a vise, install protective plates on jaws of vise to prevent parts from being damaged.



14. Dynamometer

When testing vehicle on dynamometer, pay attention to the following:

- Place a fan in front of vehicle. It is best to use a fan of which the power changes in proportion to vehicle speed.
- Connect an exhaust gas ventilator.

WARNING

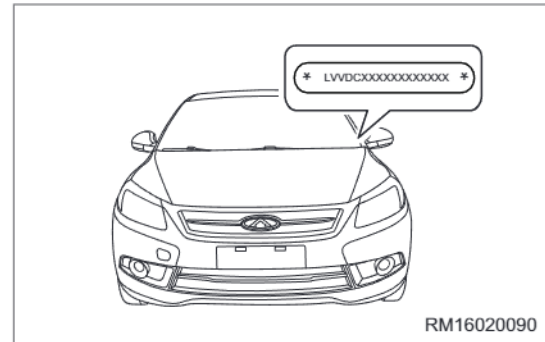
- Exhaust gas may cause injury and death. There is odorless, colorless Carbon Oxide (CO) in the exhaust gas. People will faint and get poisoned after inhaling it.
-
- Cool exhaust pipe with a fan.
 - Keep area around vehicle clean and tidy.
 - Monitor engine coolant thermometer.

VEHICLE INFORMATION

Vehicle Identification Information

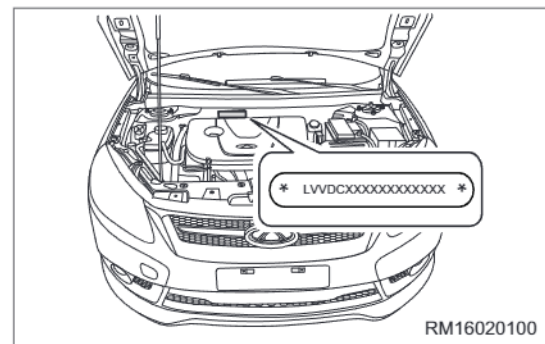
1. Vehicle Identification Number (VIN)

VIN is located on the upper left part of instrument panel on driver side, and can be seen from outside through windshield.



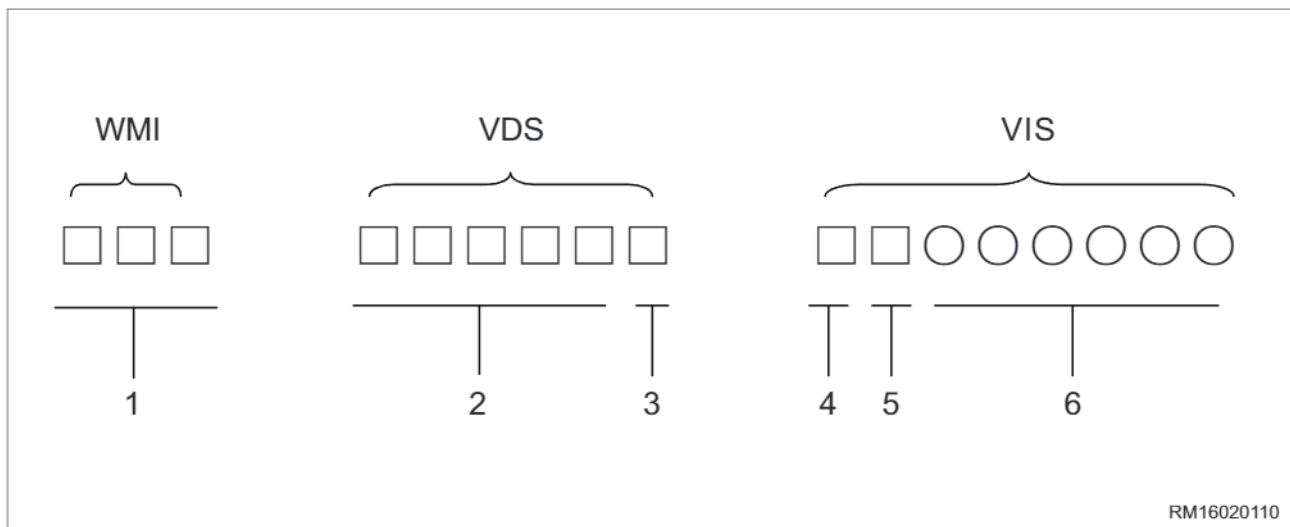
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VIN is also located on right side frame of engine compartment.



Vehicle Identification Number (VIN)

Vehicle Identification Number (VIN) consists of World Manufacturer Identifier (WMI), Vehicle Descriptor Section (VDS) and Vehicle Indicator Section (VIS), with a total of 17-digit characters. Detailed descriptions are as follows:



□: represents a letter or a number (letters I, O and Q cannot be used); ○: represents a number.

No.	Definition
1	World Manufacturer Identifier
2	Vehicle Features
3	Accuracy Check Digit
4	Model Year
5	Production Plant
6	Sequential Number

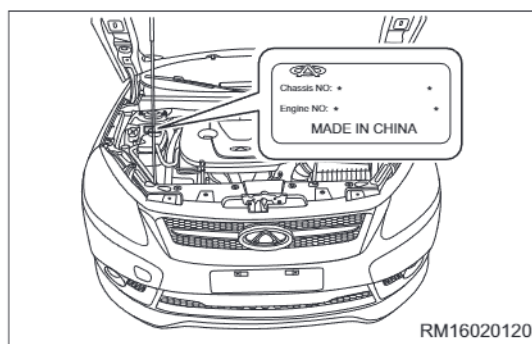
- First three digits of VIN represent world manufacturer identifier.

No.	WMI Code	Vehicle Category
1	LVV	Category M1 (for vehicle type number started with 7)

- Fourth digit of VIN represents vehicle type.
 - Letter "D" means all vehicles in category M1.
- Fifth digit of VIN represents vehicle body type and drive type.
 - Letter "C" means 4-door sedan 4 × 2 type.
- Sixth digit of VIN represents transmission type.
 - "1" means manual transmission.
 - "2" means automatic transmission.
- Seventh digit of VIN represents dynamic characteristics.
 - "4" means gasoline engine that is 1.5 - 2.0 L (2.0 L excluded).
- Eighth digit of VIN represents restraint system.
 - "B" means seat belt and airbag.
- Ninth digit of VIN represents check digit.
 - It is used to check the accuracy of VIN record, and made out through computation after confirming the other sixteen digits of VIN.
- Tenth digit of VIN represents model year:
 - "D" represents 2013.
 - "E" represents 2014.
- Eleventh digit of VIN represents assembly plant code.
 - "D" represents Chery Automobile Co., Ltd.
- Last six digits of VIN represent production sequence number.
 - This number means real production serial number of this model.

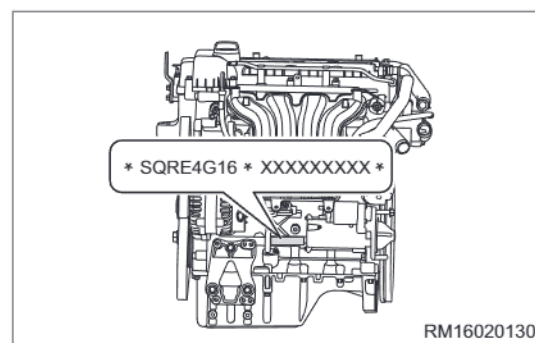
2. Vehicle data plate

Vehicle name plate is located on front right shock absorber upper support in engine compartment.



3. Engine number

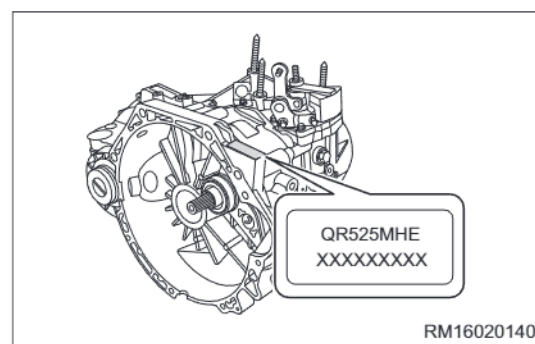
Engine number is stamped on engine block.



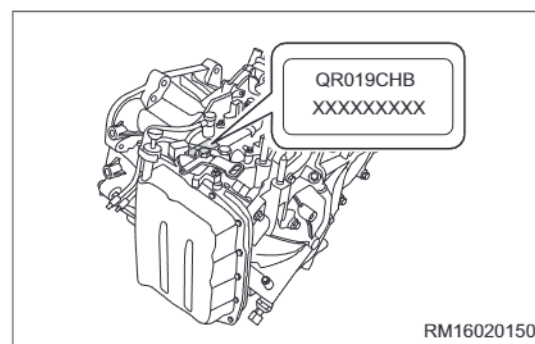
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4. Transmission number

Transmission number (for MT model) is stamped on transmission case.



Transmission number (for CVT model) is stamped on transmission case, close to transmission oil dipstick.



Symbols

The symbols below are instrument cluster display symbols and some international standard symbols.

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

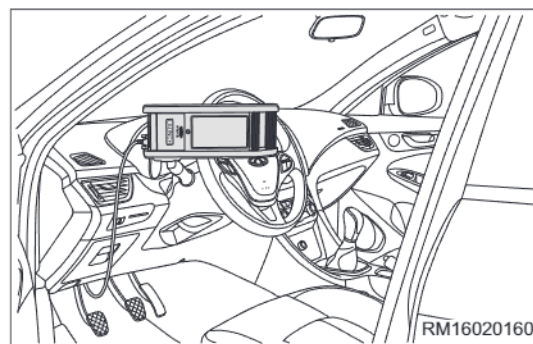
1 - Charging System Warning Light	2 - Front Fog Indicator
3 - Rear Fog Indicator	4 - Headlight High Beam Indicator
5 - Engine Immobilizer System Warning Light	6 - Maintenance Indicator
7 - High Coolant Temperature Indicator	8 - Position Indicator
9 - EPC Warning Light	10 - Engine Malfunction Warning Light
11 - Low Engine Oil Pressure Warning Light	12 - Turn Signal Indicator
13 - SRS Warning Light	14 - Driver Seat Belt Reminder Light
15 - Brake System Warning Light	16 - ABS Warning Light
17 - Front Passenger Seat Belt Reminder Light	18 - ESP Warning Light
19 - ESP OFF Warning Light	20 - Low Fuel Level Warning Light
21 - Electronic Steering System Warning Light	22 - Cruise Indicator
23 - Transmission Malfunction Warning Light	24 - Parking Brake Indicator
25 - Low Tire Pressure Warning Light	26 - Hazard Flasher Warning light
27 - Horn	28 - Cigarette Lighter
29 - Hood Open	30 - Windshield Washer

CIRCUIT DIAGNOSIS INFORMATION

How to Use Tester

Connect tester cable to DLC, turn ignition switch ON and try to use tester. If communication malfunction appears on the display, it indicates that vehicle or tester is defective.

- If communication is normal when the tester is connected to another vehicle, inspect DLC on original vehicle.
- If communication is still not possible when the tester is connected to another vehicle, the tester itself is probably defective.



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ECM Control System Troubleshooting

This model uses ECM control system. Most malfunction inspection procedures only involve in checking circuits of ECM control system one by one. An adequate understanding of the system and a basic knowledge of electricity are enough to perform effective troubleshooting, accurate diagnosis and necessary repairs.

Diagnosis and Troubleshooting

1. Diagnosis basis and troubleshooting methods

Procedure Type	Detail	Troubleshooting Method
Diagnosis based on DTC	Diagnosis procedure is based on stored DTC.	• Use eliminating method to determine malfunctioning parts in accordance with DTC detection conditions. • Inspect relevant parts with tester and eliminate possible malfunctions one by one.
Diagnosis based on symptoms (no DTCs stored)	Diagnosis procedure is based on problem symptoms.	• Use eliminating method to determine malfunctioning parts in accordance with problem symptoms. • Inspect relevant parts with tester and eliminate possible malfunctions one by one.

2. Detailed troubleshooting steps

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Step	Description
1	Obtain detailed information when electrical malfunction occurs.
2	Operate affected system, and perform a road test as necessary. Confirm malfunction parameter. If it is impossible to duplicate malfunction, refer to "Electrical Malfunction Simulation Test".
3	Collect proper diagnosis materials, which include: • Circuit Diagram • System Schematic Diagram • Relevant Chapter in Service Manual • Service Bulletin Perform diagnosis according to system operation knowledge and customer feedback that we possess.
4	Check if there is any bonding, loose connector or damaged wire harness in the system. Determine related circuits and components, and diagnose according to circuit diagram and wire harness layout diagram.
5	Repair circuit and replace component as necessary.
6	Operate system in all modes. Confirm that system can operate normally in all conditions. Confirm that you have not inadvertently created new malfunctions during your diagnosis or repair steps.

Circuit Simulation Test

Non-regular malfunctions and other malfunctions that cannot be detected through a road test can be detected by circuit simulation test. Possible vehicle malfunction can be determined efficiently by simulating condition/environment when the malfunction occurs.

Simulation test can be classified into following 7 types:

- Vehicle vibration test
- Thermosensitive test
- Freezing test
- Leakage test
- Load test
- Cold/hot start test
- Voltage drop test

HINT:

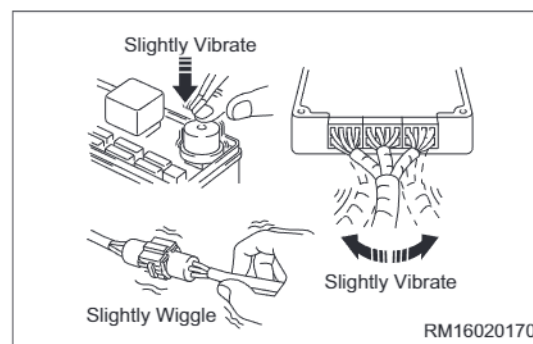
It is extremely important to listen carefully to customer's description about the malfunction for simulating the conditions when symptoms occur.

1. Vehicle vibration test

When vehicle is running on an uneven road or engine is vibrating (A/C is on and engine is idling), malfunctions may occur. In this case, check conditions related to vibration. Check following areas on vehicle:

a. Connector and wire harness

Determine connectors and wire harnesses that may affect the electrical system being inspected. When monitoring whether the system has malfunctions that are being simulated, vibrate or wiggle each connector and wire harness slightly. This test may show loose or poor electrical connections.



HINT:

When a connector is exposed to humid environment, a layer of corrosive film may be formed on its terminals. With connector connected, this condition may not be found by visual check. If an intermittent malfunction occurs, it may be caused by corrosion. It is recommended that terminals of relevant connectors in system should be checked and cleaned after disconnecting the connectors.

b. Sensors and relays

Slightly vibrate sensors and relays in system being checked. The sensors or relays that are loose or poorly installed may be found through this test.

c. Engine compartment

- There are many reasons for electrical malfunction that occurred due to vehicle vibration, and it is necessary to check following conditions:
 - Connectors are not installed correctly.
 - Wire harness is not long enough, so it is extended when engine is vibrating or shaking.
 - Wire harness hangs over brackets or movable components.
 - Ground wire is loose, dirty or corrosive.
 - Wire harness is too close to high temperature components.
- To inspect components under the engine hood, first confirm that ground connection is in perfect condition (refer to the grounding inspection described below). First confirm that system is correctly grounded. Then slightly vibrate the wire harness or components as previously instructed method to check if connection is loose. Refer to the circuit diagram to check continuity of wire harness.

d. Backside of instrument panel

- Improper wire clamping will cause wire harnesses to be entangled when installing accessories. Vibration of vehicle will cause wire harnesses near the bracket or mounting screw to wind excessively.
- When vehicle vibrates, unclamped or loose wire harness will be stuck in seat components (such as slide guide). When wire harness passes through the underside of mounting area, check if it is damaged or stuck.

2. Thermosensitive test

In hot weather or after vehicle is parked for a short time, some users may worry about the vehicle condition. At this time, it is necessary to perform thermosensitive test.

Perform test by heating components with a heat gun or equivalent.

CAUTION

- DO NOT heat components to a temperature higher than 60°C (140°F).
- If malfunction occurs when performing heating test for components, replace or properly insulate the components as necessary.

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3. Freezing test

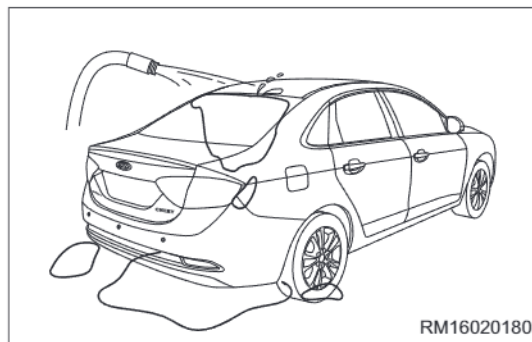
If malfunction disappears after warming up vehicle in winter, it may be caused by freeze of some parts in the wire harness/electrical system. Use following two methods to check this condition:

Method 1: Put vehicle outdoors overnight. Make sure that temperature is low enough to duplicate the malfunction. Perform a quick and thorough diagnosis for component that may be affected in the morning.

Method 2: Put suspected part in refrigerating room and wait until it is frozen. Reinstall the part to vehicle and check if malfunction reoccurs. If malfunction occurs, repair or replace the component.

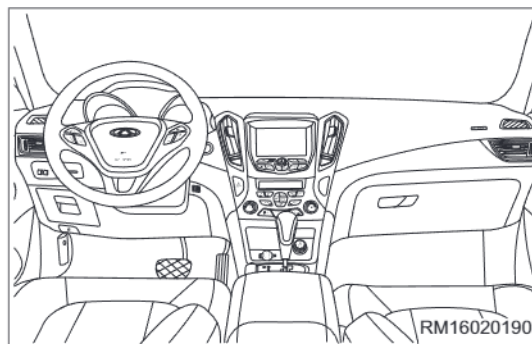
4. Leakage test

Malfunction may occur only during high humidity or in rainy or snowy weather. In this case, malfunction may occur due to the water entering electrical parts. Leakage can be checked by spraying water to vehicle (similar to car wash).



5. Load test

Malfunction occurs only when electrical equipment is turned on. Turn on electrical equipment (A/C, rear window defroster, radio and fog lights, etc.) one by one and determine the relationship between electrical equipment and malfunction. Determine the malfunction by a load test.



6. Cold/hot start test

Some malfunctions occur in cold start and disappear when engine warms up. In this case, park vehicle without operation for a whole night and restart it the next day. Perform test and determine the cause quickly.

7. Voltage drop test

Generally, voltage drop test is used to find out the possible causes that affect normal function of electrical components or circuits.

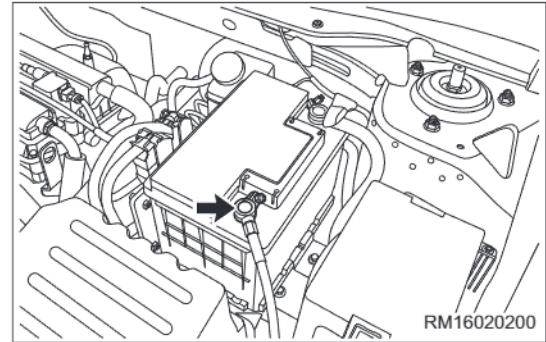
Check circuit with a digital multimeter.

If resistance of single wire harness measured by a digital multimeter is very low ($0\ \Omega$ or close to $0\ \Omega$), the wire harness or circuit is normal.

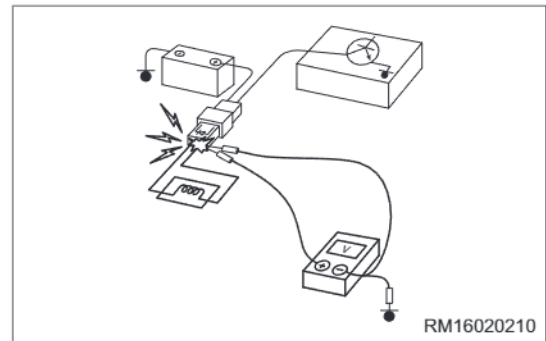
Unnecessary resistance in circuit may be caused by poor, loose grounding, corrosive switch contact and loose wire harness connector or adapter.

Precautions for Control Module and Electrical Components Inspection

- Before performing electrical operations, turn ignition switch off and disconnect negative battery cable, then wait for 2 minutes until backup power supply of airbag module is depleted (w/ airbag system).



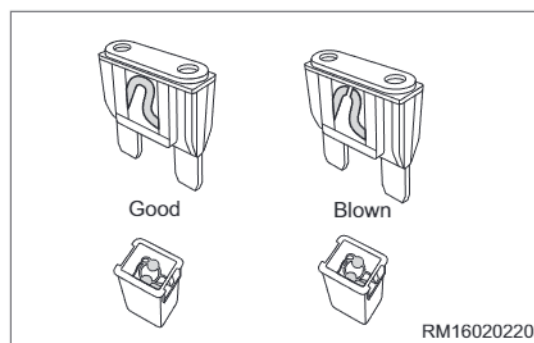
- Disconnecting battery cable will delete the clock, audio and DTC records. Therefore, it is necessary to confirm these records before disconnecting the cable.
 - Never connect electrodes of battery terminals reversely.
 - Only install components that meet the vehicle specifications.
1. Inspect input and output conditions of components and their functions before replacing control module.
 - When disconnecting components:
 - Do not use excessive force when disconnecting connectors.
 - If connector is installed with a tightening bolt, loosen bolt and then disconnect the connector by hand.
 - When connecting components:
 - Make sure that terminals are not bent or damaged, and then connect connectors correctly before installation.
 - Tighten bolt until painted area of connector is flush with the surface when installing connector with a tightening bolt.
 - Never drop or hit control modules to prevent excessive impact.
 - Avoid that condensation is formed on control modules due to extreme change of temperature, and keep them free from water drop or rain. If water is found on the control module, dry it thoroughly and then install it to vehicle.
 - Be careful not to allow fluid to adhere to control module connectors.
 - Avoid cleaning the control module with volatile fluid.
 - When using digital multimeter, be careful not to get testing probes to contact with each other to result in a short circuit. Avoid damaging the battery due to short circuit in power transistor inside a control module.



- Use specified test adapter to check input and output signals of control modules.

2. Check fuse

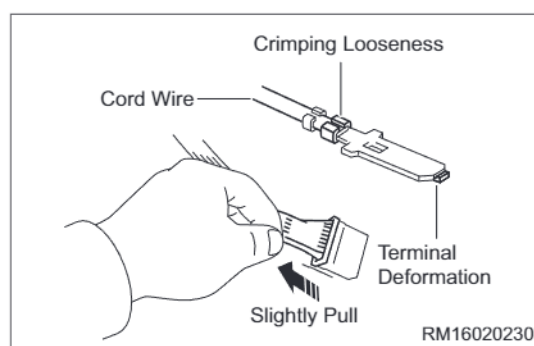
- Check that fuse wire is connected.



- If fuse wire is blown, confirm that there is no short in circuit.
- A fuse with the same rated amperage must be used for replacing.

How to Check Connector

Many electrical malfunctions are caused by electrical connections or wire malfunctions, and also may be caused by the bonding of components or relays. Before determining if malfunction is caused by components or wire harness assembly, check if connection of the connectors is good.



1. Check connector with a digital multimeter

- Damaged connectors and poor connections are caused by incorrect connector detection during circuit inspection.
- Probes of digital multimeter may be connected incorrectly with socket of connector. To detect the connector correctly, use a "T" shaped pin and follow procedures below. To obtain optimal connection, clamp the "T" shaped needle with a spring clamp.
 - a. Detect from wire harness side
 - If there is a back cover for connector, remove the back cover before detecting terminal.
 - Do not detect the water-proof connector from wire harness side. Failure to do this may damage the seal between wire harness and connector.
 - b. Detect from terminal side
 - Female terminal:
 - Do not insert any object that is bigger than male terminal into the female connector.
 - Male terminal:
 - Carefully detect contact surfaces of each terminal with a "T" shaped needle. Do not bend the terminal.

2. Check terminal contact spring for proper tension

- Contact spring on terminal may produce intermittent signals in circuit.
- If intermittent open circuit occurs, follow procedures below to check open wire harness and contact spring on female terminal.
 - Use a male terminal matched with female terminal.
 - Disconnect the suspected defective connector and secure terminal side upward.
 - When securing wire harness of male terminal, try to insert male terminal into female terminal.
 - Move connector and check if male terminal can be inserted easily.

HINT:

If male terminal can be inserted into female terminal easily, replace the female terminal.

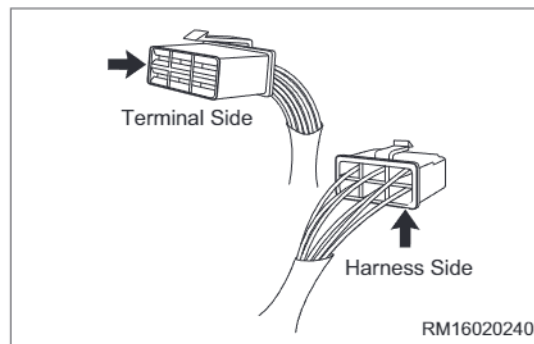
CIRCUIT INFORMATION

How to Read Circuit Diagram

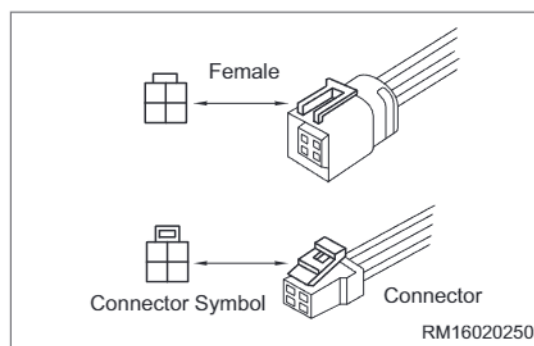
1. Connector symbols

- Most of connector symbols in circuit diagrams indicate terminal side.

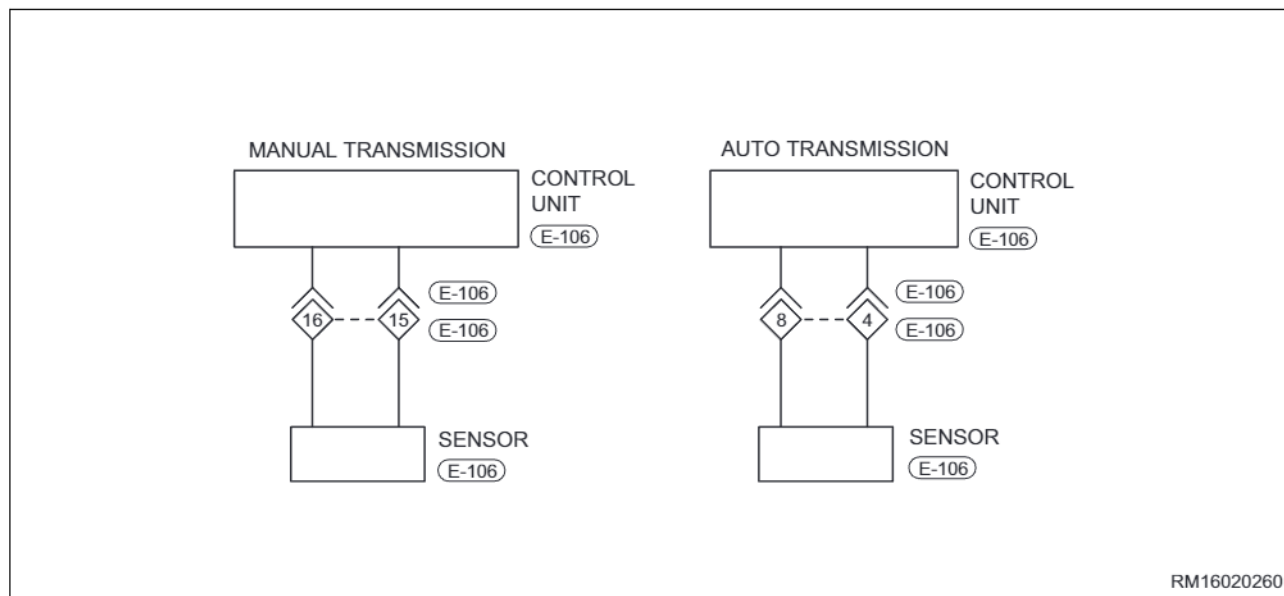
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- Terminal side view in circuit diagram is shown at the bottom of circuit diagram.



2. Option splices

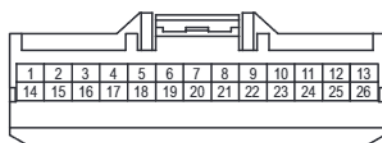
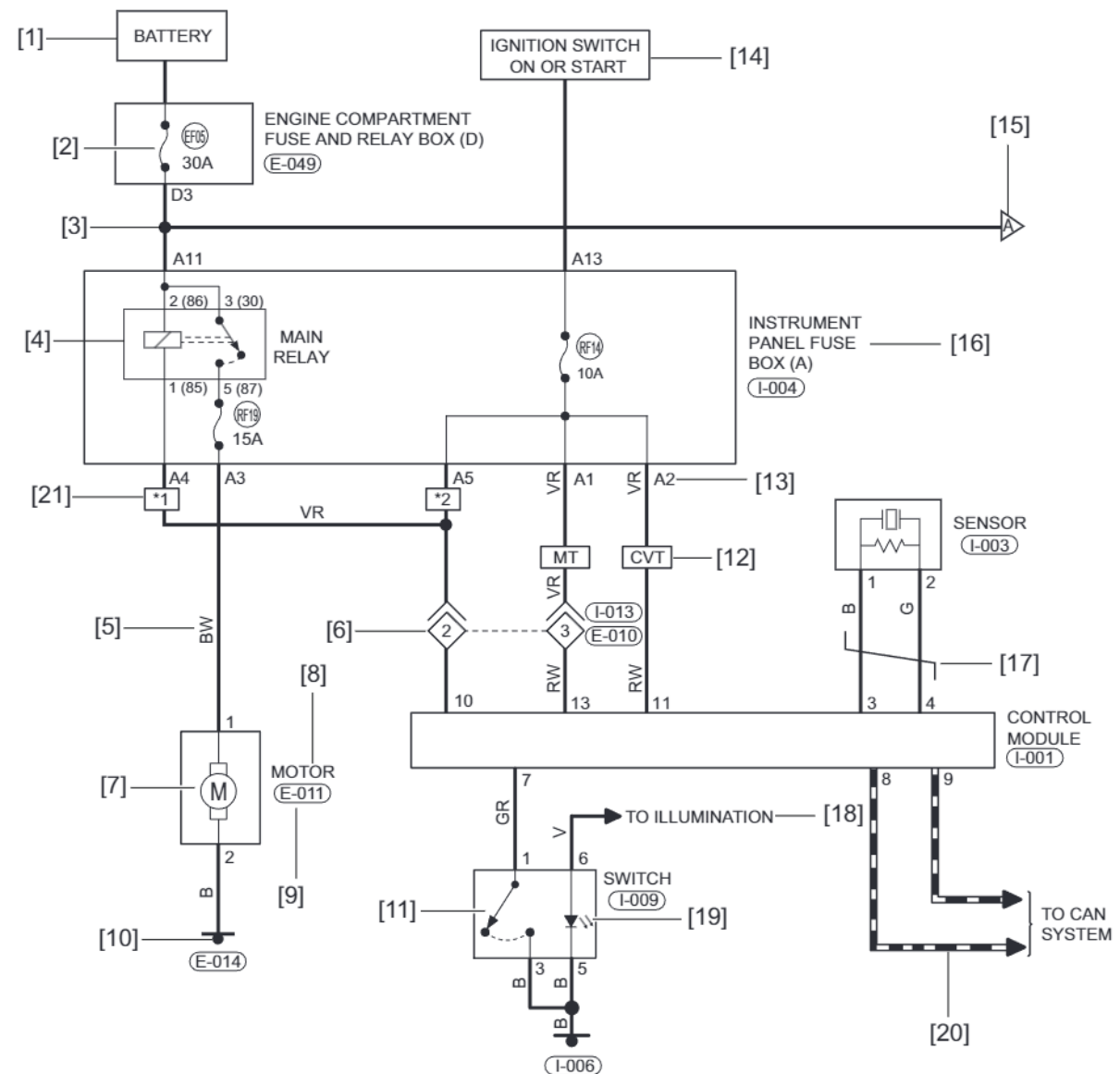


Option splice is indicated by diamonds (solid line), and marked with terminal number inside.

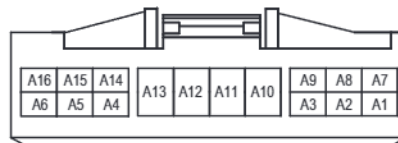
3. Circuit diagram example

EXAMPLE

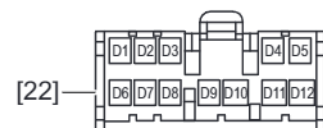
*1: W/ PEPS
 [21]——*2: W/O PEPS



(I-001)
W



(I-004)
W



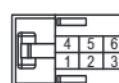
(E-049)
[23]——W



(I-013)
W



(E-011)
Gr



(I-009)
W



(I-003)
W

EM16530000

The following is a list of symbols defined in circuit diagram.

02

No.	Definition	Description
[1]	Battery	It indicates power supply from battery positive to electrical equipment.
[2]	Fuse	This symbol indicates a fuse; "EF05" indicates fuse number; "30A" indicates rated amperage of fuse.
[3]	Splice Point	Solid circle indicates that each intersecting wire is interconnected.
[4]	Relay	This symbol indicates a relay; "MAIN RELAY" indicates relay name; "1", "2", "3" and "5", or "85", "86", "87" and "30" indicate terminal numbers of relay.
[5]	Color	It indicates color of this wire. Color codes are as follows: B = Black; W = White; R = Red; G = Green; L = Blue; Y = Yellow; Br = Brown; O = Orange; Gr = Gray; P = Pink; V = Violet; Lg = Light Green. For example: "BrR" indicates that main color is brown in wire color, and the second color is red.
[6]	Connector	It indicates plug-in connector. "Λ" is female connector, and "I-013" is applicable number; "◇" is male connector, and "E-010" is applicable number. Number "2" or "3" inside male connector indicates terminal number. "----" indicates different terminals come from the same junction connectors.
[7]	Motor	This symbol indicates a motor.
[8]	Component Name	It indicates name of component.

No.	Definition	Description
[9]	Connector No.	"E-011" indicates connector number of this component, and letter "E" indicates wire harness code in which the connector is located. Connector codes are as follows: E = Engine Wire Harness; Q = Front Bumper Wire Harness; I = Instrument Panel Wire Harness; B = Body Wire Harness; F = Front Left Door Wire Harness; H = Front Right Door Wire Harness; L = Rear Left Door Wire Harness; R = Rear Right Door Wire Harness; T = Trunk Wire Harness; C = Roof Wire Harness; J = Rear Bumper Wire Harness; K = A/C Wire Harness; A = Airbag Wire Harness; P = Battery Positive Wire Harness; N = Battery Negative Wire Harness; G = Ground Wire Harness.
[10]	Ground Point	It indicates ground connection.
[11]	Switch	This symbol indicates a switch.
[12]	Vehicle Model	"CVT" indicates it is for CVT model; "MT" indicates it is for MT model.
[13]	Terminal No.	It indicates terminal number in connector of this component.
[14]	Ignition Switch	It indicates power supply from ignition switch to electrical equipment.
[15]	Connected to ...	It indicates that wire harness is connected to circuit diagram on next page. Letter "A" is connected with "A" in circuit diagram on next page.
[16]	Fuse and Relay Box Name	It indicates name of fuse and relay box.
[17]	Twisted-pair	It indicates that two wires are twisted.
[18]	Backlight Power Supply	It indicates illumination power supply output from backlight adjustment dial.
[19]	LED	It is used for indicators, warning lights or illuminations in the switches or instrument cluster.
[20]	CAN	It indicates CAN wire in circuit diagram. It is connected to CAN system.
[21]	Optional Equipment	"*1" indicates it is for vehicles with PEPS; "*2" indicates it is for vehicles without PEPS.
[22]	Connector View	It indicates cross section of connector and description of terminal number.
[23]	Connector Color	Letter "W" indicates color of connector. Color codes are the same as above.

Circuit Diagram Index

Use table below to find location of components or vehicle systems in circuit diagram. It is easy to find circuit diagrams throughout service manual based on components or vehicle systems.

It has been marked under "If There Is Any Circuit Diagram" column to tell you if there is any circuit diagram in components or vehicle systems.

02

Service Manual Chapter	If There Is Any Circuit Diagram
Foreword	-
Introduction	-
Preparation	-
Service Specifications	-
Maintenance	-
SQR4G16 Engine Management System	Yes
SQR4G16 Engine Mechanical	-
SQR4G16 Fuel Supply System	Yes
SQR4G16 Emission Control System	Yes
SQR4G16 Intake System	Yes
SQR4G16 Exhaust System	-
SQR4G16 Cooling System	Yes
SQR4G16 Lubrication System	-
SQR4G16 Ignition System	Yes
SQR4G16 Starting System	Yes
SQR4G16 Charging System	Yes
QR525MHE Transmission	-
QR019CHB CVT	Yes
Clutch	-
Drive Shaft	-
Differential	-
Axle	-
Suspension	-
Tire and Wheel	-
Brake Control System	Yes
Brake	Yes
Parking Brake	Yes
Steering Column	Yes
Hydraulic Assist Steering	-
Electronic Power Steering	Yes
Air Conditioning	Yes
Supplemental Restraint System	Yes
Seat Belt	Yes

Service Manual Chapter	If There Is Any Circuit Diagram
Engine Immobilizer	Yes
Lighting System	Yes
Wiper and Washer	Yes
Door Lock	Yes
Instrument Cluster	Yes
Audio/Visual System	Yes
Reversing Radar System	Yes
Horn	Yes
Other System	Yes
Windshield/Window Glass	Yes
Rear View Mirror	Yes
Instrument Panel	-
Seat	Yes
Engine Hood/Door	-
Exterior	-
Interior	-
Body Dimensions	-
Wire harness	Yes

ABBREVIATION TABLE

Abbreviation Table

02

Term	Abbreviation
Anti-lock Brake System	ABS
Acceleration Sensor	AES
Accelerator Pedal Position Sensor	APS
Automatic Temperature Control	ATC
Automatic Transmission Fluid	ATF
Body Control Module	BCM
Brake Pressure Sensor	BPS
Camshaft Position Sensor	CMPS
Clutch Pedal Position Switch	CPP Switch
Crankshaft Position Sensor	CKP
Data Link Connector	DLC
Diagnostic Trouble Code	DTC
Engine Control Module	ECM
Engine Coolant Temperature	ECT
Engine Speed	RPM
Evaporative Emission	EVAP
Evaporative Emission Canister	EVAP Canister
Evaporative Emission System	EVAP System
Exhaust Gas Recirculation Valve	EGR Valve
Front Left Wheel Speed Sensor	FLS
Front Right Wheel Speed Sensor	FRS
Rear Left Wheel Speed Sensor	RLS
Rear Right Wheel Speed Sensor	RRS
Ground	GND
Heated Oxygen Sensor	O2S
Idle Air Control	IAC
Intake Temperature	IAT
Ignition	IGN
Ignition Control	IC
Immobilizer Control Module	ICM
Injector	INJ
Input Shaft Speed Sensor	ISS Sensor
Knock Sensor	KS
Manifold Absolute Pressure	MAP

Term	Abbreviation
Mass Air Flow	MAF
Malfunction Indicator Light	MIL
Oil Pressure Switch	OPS
Output Shaft Speed Sensor	OSS Sensor
Positive Crankcase Ventilation Valve	PCV Valve
Power Supply	PWR
Supplemental Restraint System	SRS
Throttle Position Sensor	TPS
Transaxle Control Module	TCM
Turbine Speed Sensor	TSS
Vehicle Identification Number	VIN
Vehicle Speed Sensor	VSS

