

CHERY A19 Service Manual 2014

01

FOREWORD

This manual contains on-vehicle diagnosis and service procedures for Chery A19.

It is very important to read and be familiar with this manual thoroughly for proper repair and maintenance. This manual should be kept in a handy place for quick and easy reference.

The contents in this manual, including all illustrations and specifications, are current at the time of printing. As modifications affecting repair and maintenance occur, relevant information supplementary to this volume will be made available at Chery dealers.

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This manual only applies to the model listed below:
A19 1.5 L MT

CAUTION:

This manual is only for specialized technicians. If non-specialized or uncertified individuals perform repairs or maintenance privately only referring to this manual or without proper equipment and tools, it may cause damage to the customer's vehicle and injury to you and other persons nearby.

In order to prevent dangerous operation and damage to the vehicle, be sure to follow the instructions shown below:

- The contents in this manual must be read thoroughly. Have a good understanding of all the contents written in the PRECAUTION of "INTRODUCTION" section.
- Before performing the repair procedures, be sure to put on protective tools properly to avoid personal injury.
- When performing the repair procedures, be sure to use specified and recommended tools to prevent damage to the customer's vehicle. Be sure to confirm the safety of the technicians before operating to avoid personal injury.
- If a part needs to be replaced, use Chery genuine part with the same part number. Do not use any inferior quality part.
- Observe the "WARNING" and "CAUTION" in this manual carefully in order to reduce the risk of personal injury and vehicle damage due to improper operation during service and maintenance.

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INTRODUCTION

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SERVICE INFORMATION

How to Use This Manual

1. General information

This manual includes all the necessary procedures for service operations.




These procedures can be divided into three categories:

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

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

- Use a transmission carrier or lifter to perform the operations.
- Clean all the 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 the repairing components may happen.
 ENVIRONMENTAL PROTECTION	Dispose of the waste materials according to local regulations.
HINT	Provide additional information to help you with the service operations.

2. Service procedure

Illustrations attached with the service procedure 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 the 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 the specified DTC diagnosis and check.
- Problem symptoms table
The malfunction locations can be determined quickly by troubleshooting in accordance with the symptom type.

4. Specifications

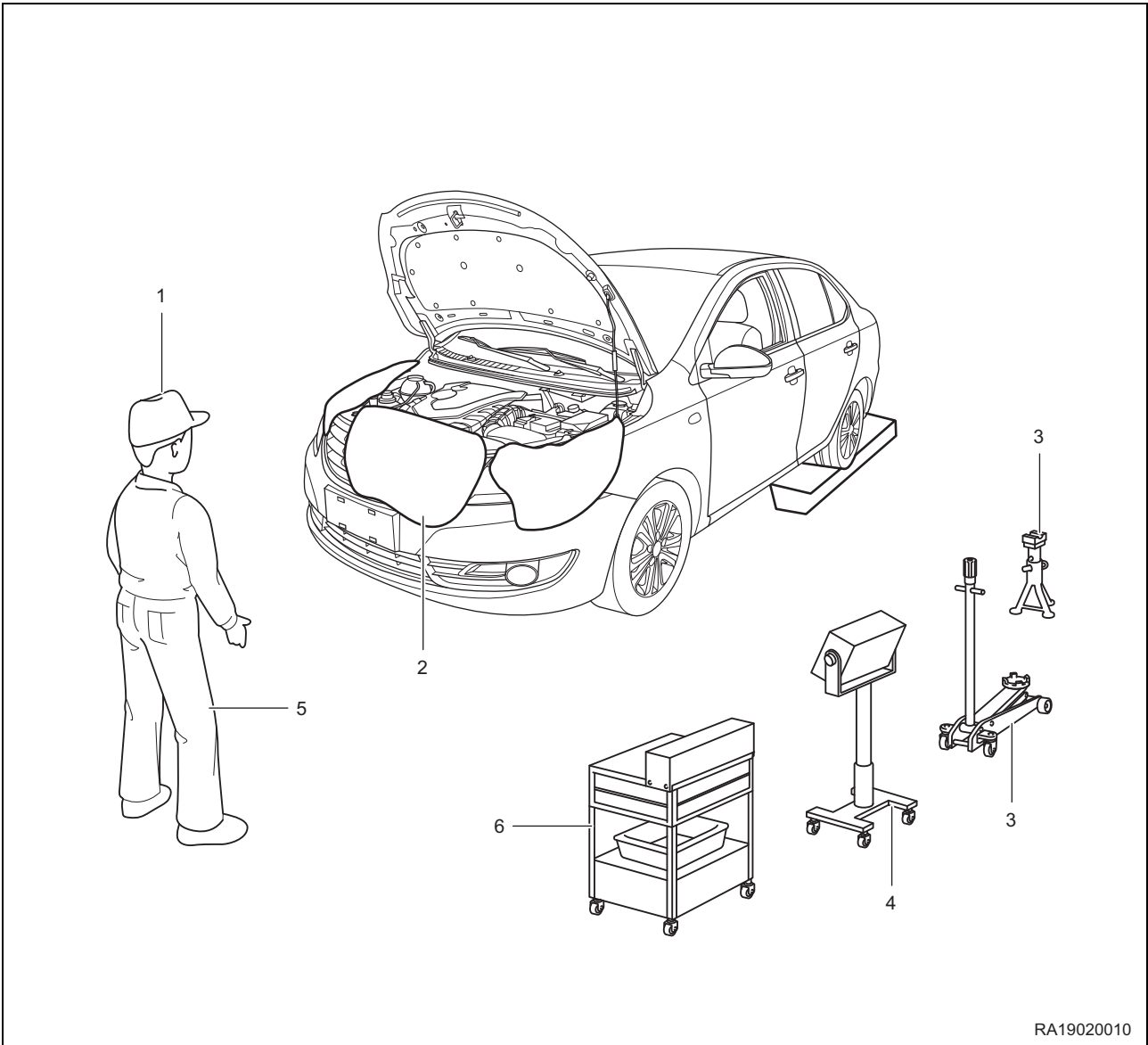
This manual categorizes specifications as below:

- Torque specifications
- Clearance specifications
- Capacity specifications

Preparation

1. Preparation for vehicle service

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1	Attire	<ul style="list-style-type: none"> • Always wear a clean uniform. • A hat and safety shoes must be worn.
2	Vehicle Protection	Before starting work, prepare a radiator grille cover, fender cover, seat cover and floor mat.
3	Safety Operation	<ul style="list-style-type: none"> • When working with two or more persons, be sure to check the safety each other. • When working with the engine running, make sure to provide ventilation for exhaust gas in the workshop. • If working on 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 the vehicle, be sure to support the specified locations with safety stands. • When lifting up the vehicle, use appropriate safety equipment.
4	Preparation for Tools and Measuring Gauge	Before starting work, prepare a tool stand, special tools, gauge, oil and parts for replacement.
5	Removal and Installation, Disassembly and Assembly Operations	<ul style="list-style-type: none"> • Diagnose after thoroughly understanding the proper service procedures and reported problem. • Before removing the parts, inspect the general condition of the assembly to check for any deformation or damage. • Take notes for the complicated assembly. For example, note the 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 the hoses and their joints as necessary. • Clean and wash the removed parts if necessary and assemble them after a thorough inspection.
6	Removed Parts	<ul style="list-style-type: none"> • Place the removed parts in a separate box to avoid mixing them up with the new parts or contaminating the 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 the removed parts for customer inspection, if requested.

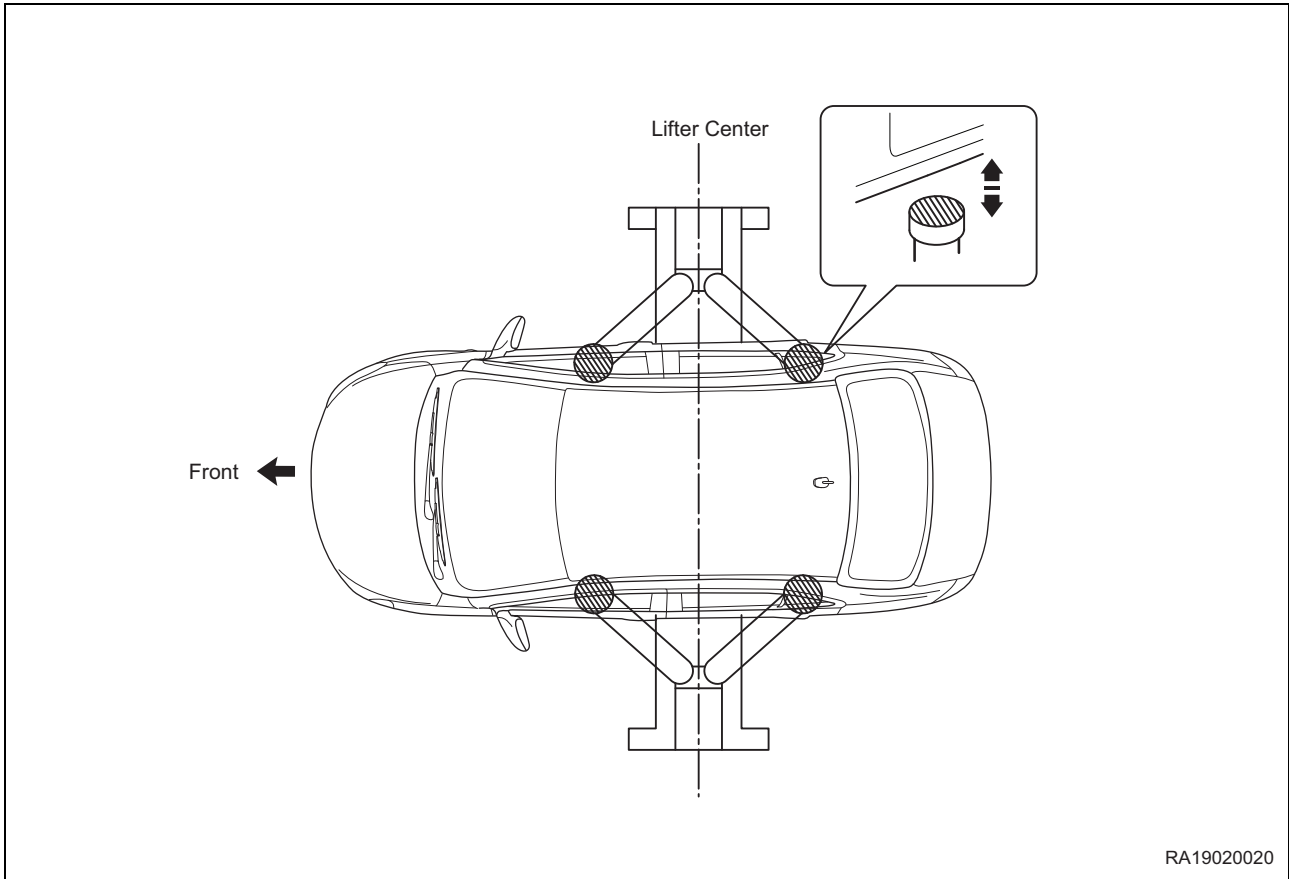
2. Jacking up and supporting vehicle

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

a. Precautions for using a swing arm type lifter

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

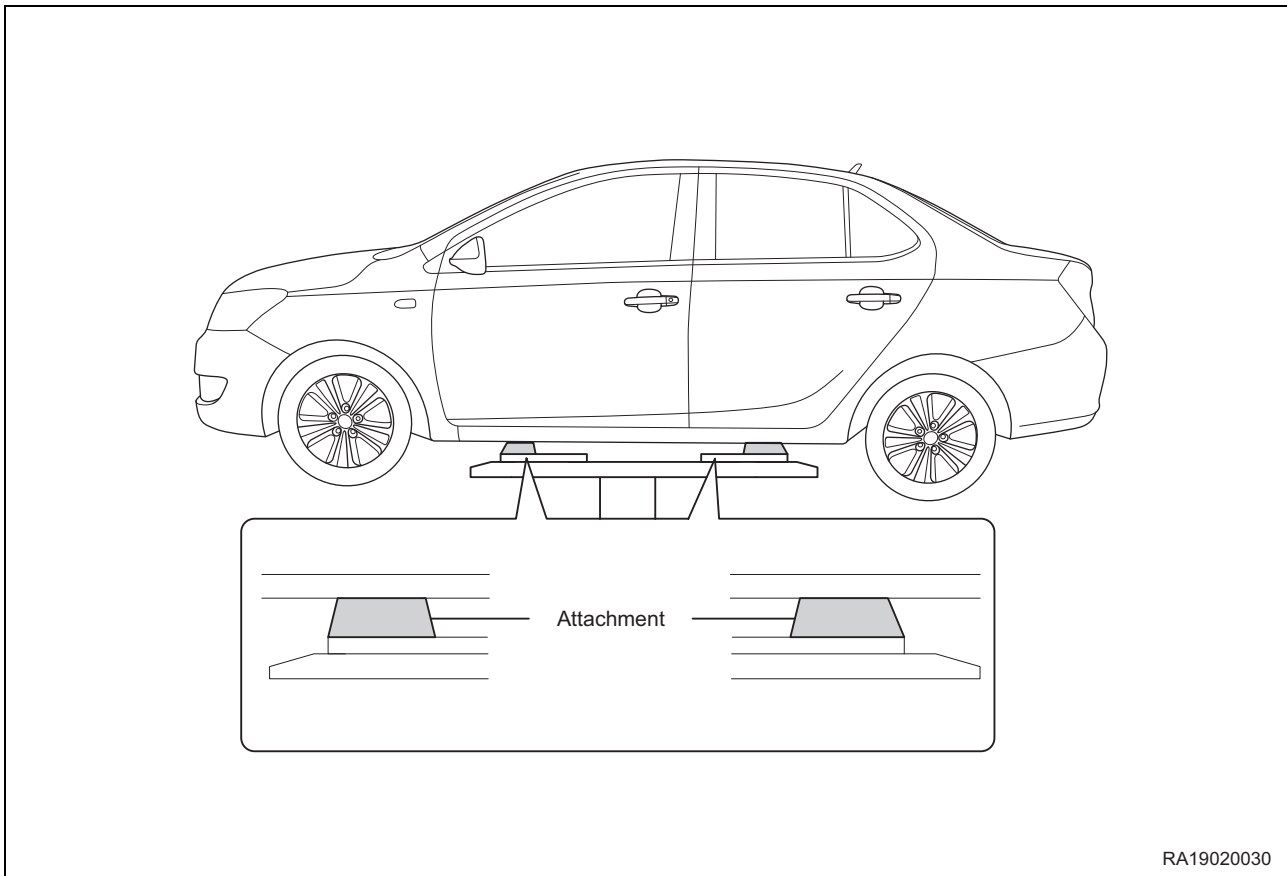
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b. Precautions for using a plate type lifter

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



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Service Operation

1. How to use fasteners

WARNING

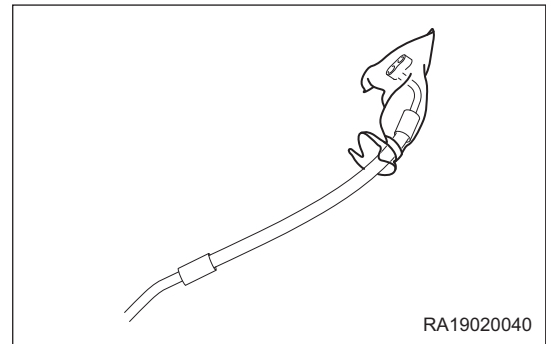
- Using incorrect fasteners may cause damage to the components. Injury and death may occur without observing the instructions below.

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

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

2. Remove parts

When repairing the 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 the parts, block all the holes and ports to prevent foreign objects from entering.



3. Disassemble components

If the disassembly procedures are complicated and multiple parts need to be disassembled, make sure that the 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 the disassembled parts to make the assembly easier.

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

6. Clean parts

Make a thorough and careful cleaning for reusable parts.

⚠ WARNING

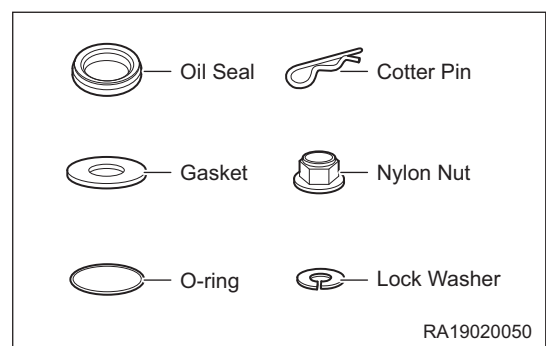
- Blowing out the dirt or other particles with compressed air may hurt your eyes, and be sure to wear goggles during operation.

7. Assemble components

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

If the 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 the position.

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

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

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

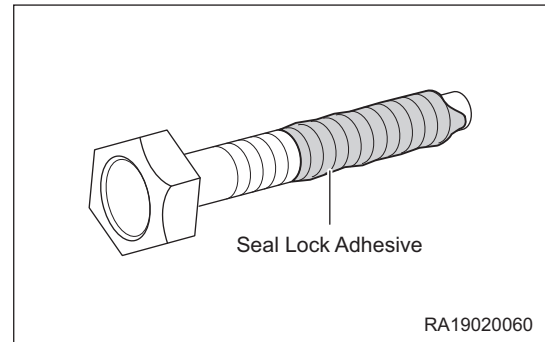
9. Adjustment

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 the rubber parts or rubber hoses.

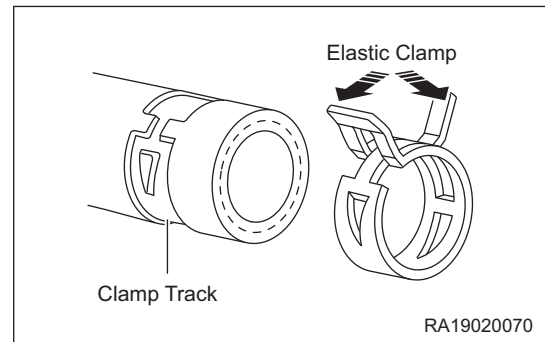
12. Hose clamp

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

Replace the deformed or dented clamps with new ones.

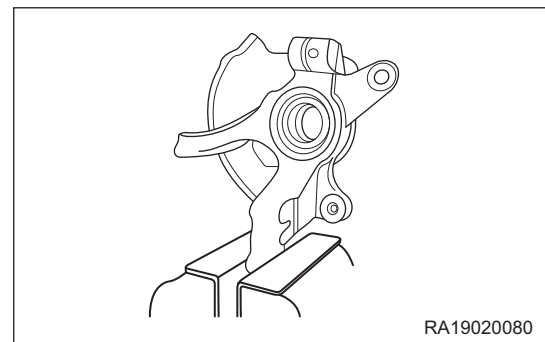
When reusing a hose, fix the clamp on the clamp track portion of hose.

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



13. Vise

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



14. Dynamometer

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

- Place a fan in front of the vehicle. It's best to use a fan of which the power changes in proportion to the 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 the exhaust pipe with a fan.
- Keep the area around vehicle clean and tidy.
- Monitor the engine coolant thermometer.

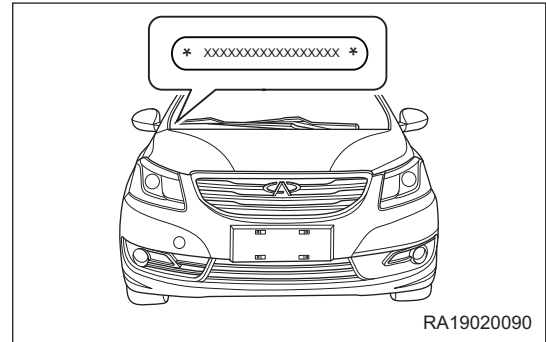
VEHICLE INFORMATION

Vehicle Identification Information

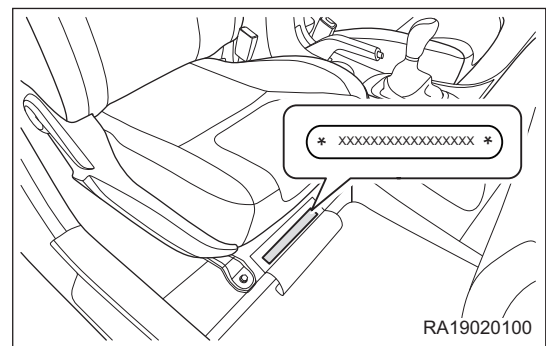
1. Vehicle Identification Number (VIN)

VIN is located on the front left part of instrument panel.

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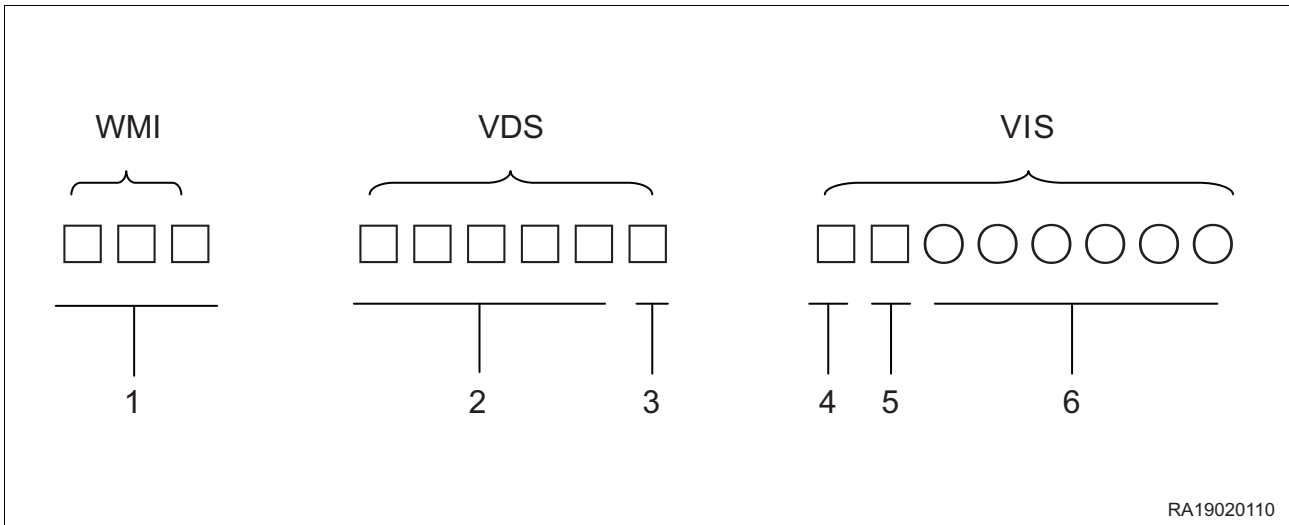


The code can also be found on the body bottom board under the front right seat.



Vehicle Identification Number (VIN)

The 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. The specifications 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

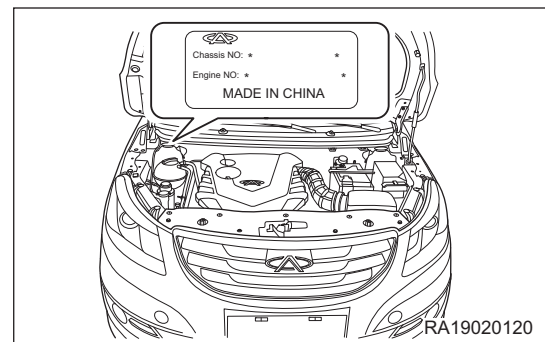
- The first three digits of VIN represent world manufacturer identifier.

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

- The fourth digit of VIN represents vehicle type.
 - Letter "D" means all vehicles in the category M1.
- The fifth digit of VIN represents vehicle body type and drive type.
 - Letter "C" means 4-door sedan 4 × 2 type.
- The sixth digit of VIN represents transmission type.
 - "1" means manual transmission.
- The seventh digit of VIN represents dynamic characteristics.
 - "1" means the gasoline engine that is 1.5 L - 2.0 L (2.0 L excluded).
- The eighth digit of VIN represents restraints system.
 - "B" means seat belt and airbag.
- The 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 the VIN.
- The tenth digit of VIN represents model year:
 - "E" represents 2014.
- The eleventh digit of VIN represents assembly plant code.
 - "D" represents "Chery Automobile Co., Ltd."
- The last six digits of VIN represent production sequence number.
 - The number means the real production serial number of this model.

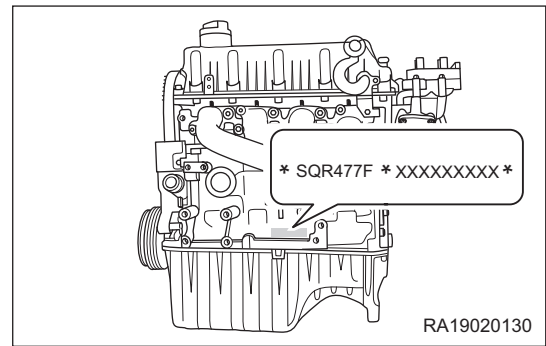
2. Vehicle data plate

The vehicle data plate is located on the upper part of right shock absorber seat in the engine compartment, and it is marked with chassis number and engine number.



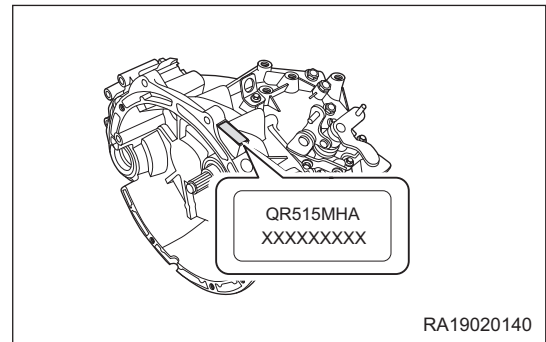
3. Engine number

The engine number is located between the engine exhaust manifold and generator.




































4. Transmission number

The transmission number is stamped on the transmission case near the transmission shift mechanism.



Symbols

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

 1	 2	 3	 4	 5	 6
 7	 8	 9	 10	 11	 12
 13	 14	 15	 16	 17	 18
 19	 20	 21	 22	 23	 24
EPC 25	 26	 27	 28	WIN 29	 30
 31	 32	 33	 34	SRS 35	 36

1 - Seat Belt Reminder Light	2 - ABS Warning Light
3 - Door Open Warning Light	4 - Brake System Warning Light
5 - High Coolant Temperature Warning Light	6 - Turn Signal Indicator
7 - Low Fuel Level Warning Light	8 - SRS Warning Light (if equipped)
9 - Low Beam Indicator	10 - Position Light Indicator
11 - Rear Fog Indicator	12 - Engine Malfunction Warning Light
13 - Low Engine Oil Pressure Warning Light	14 - Charging System Warning Light
15 - Maintenance Indicator	16 - Daytime Running Light Indicator
17 - High Beam Indicator	18 - Automatic Cruise
19 - Front Fog Indicator	20 - Transmission Malfunction Warning Light
21 - Courtesy Dome Light	22 - Electronic Steering Assist Warning Light
23 - ESP Warning Light	24 - ESP OFF Indicator
25 - EPC Warning Light	26 - Parking Brake Warning Light
27 - Front Seat Belt Reminder Light	28 - Immobilizer System Warning Light
29 - Snow Mode Indicator	30 - Hazard Flasher Warning light
31 - Horn	32 - Cigarette Lighter
33 - Hood Open	34 - Rear Windshield Heater Indicator
35 - Airbag	36 - Windshield Washer

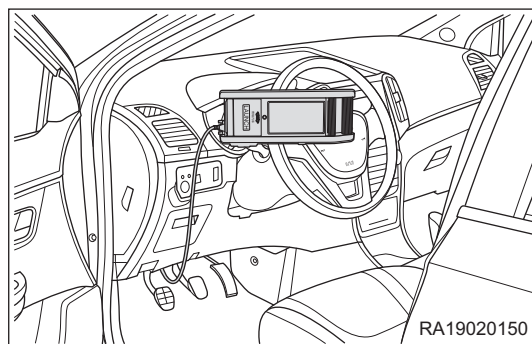
CIRCUIT DIAGNOSIS INFORMATION

How to Use Tester

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

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



ECM Control System Troubleshooting

This model uses the ECM control system. Most malfunction inspection procedures only involve in checking the 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 Types	Details	Troubleshooting Methods
Diagnosis based on DTC	Diagnosis procedure is based on stored DTC.	Use eliminating methods to determine malfunctioning parts in accordance with DTC detection conditions. Inspect relevant parts with the tester and eliminate possible malfunctions one by one.
Diagnosis based on symptoms (no DTCs stored)	Diagnosis procedure is based on problem symptoms.	Use eliminating methods to determine malfunctioning parts in accordance with symptoms. Inspect relevant parts with the tester and eliminate possible malfunctions one by one.

2. Detailed troubleshooting steps

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".