

GENERAL INFORMATION

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HOW TO USE THIS MANUAL

RANGE OF TOPICS

- This manual contains procedures for performing all required service operations. The procedures are divided into the following five basic operations:
 - Removal/Installation
 - Disassembly/Assembly
 - Replacement
 - Inspection
 - Adjustment
- Simple operations which can be performed easily just by looking at the vehicle (i.e., removal/installation of parts, jacking, vehicle lifting, cleaning of parts and visual inspection) have been omitted.

SERVICE PROCEDURE

Inspection, adjustment

- Inspection and adjustment procedures are divided into steps. Important points regarding the location and contents of the procedures are explained in detail.

Repair procedure

1. Most repair operations begin with an overview illustration. It identifies the components, shows how the parts fit together and describes visual part inspection. However, only removal/ installation procedures that need to be performed methodically have written instructions.
2. Expendable parts, tightening torques and symbols for oil, grease and sealant are shown in the overview illustration. In addition, symbols indicating parts requiring the use of special service tools or equivalent are also shown.
3. Procedure steps are numbered and the part that is the main point of that procedure is shown in the illustration with the corresponding number. Occasionally, there are important points or additional or additional information concerning a procedure. Refer to this information when servicing the related part.

ADVISORY MESSAGES

- You'll find several **Warnings, Cautions, Notes, Specifications and Upper and Lower Limits** in this manual.

Warning

- A Warning indicates a situation in which serious injury or death could result if the warning is ignored.

Caution

- A Caution indicates a situation in which damage to the vehicle or parts could result if the caution is ignored.

Note

- A Note provides added information that will help you to complete a particular procedure.

Specification

- The values indicate the allowable range when performing inspections or adjustments.

Upper and lower limits

- The values indicate the upper and lower limits that must not be exceeded when performing inspections or adjustments.

UNIT

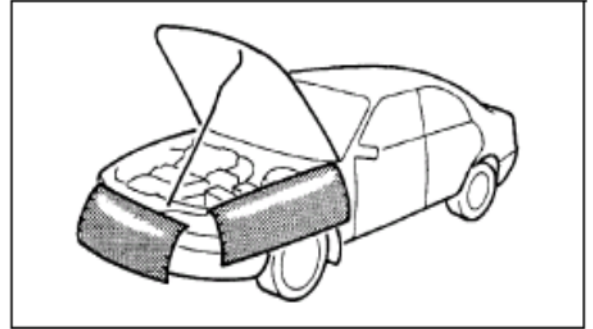
UNIT

Electric current	A (ampere)
Electric power	W (watt)
Electric resistance	Ω (ohm)
Electric voltage	V (volt)
Length	mm (millimeter)
Negative pressure	kPa (kilo pascal)
	Kg/cm ² (kilogram force per square centimeter)
	Bar (bar)
Positive pressure	kPa (kilo pascal)
	Kg/cm ² (kg/square centimeter)
Torque	N.m (Newton meter)
Volume	L (liter)
	ml (milliliter)
Weight	g (gram)
	Kg (kilogram)

FUNDAMENTAL PROCEDURES

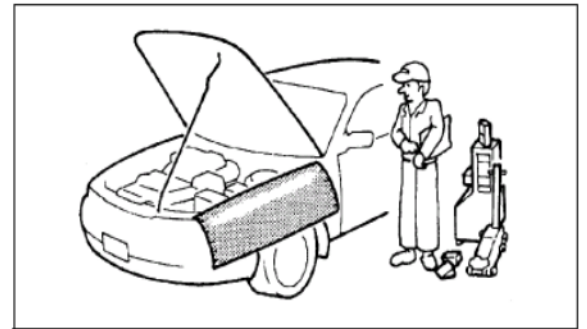
PROTECTION OF VEHICLE

- Always be sure to cover fenders, seats and floor areas before starting work.



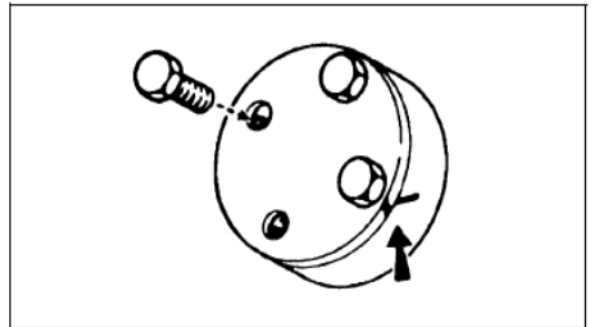
PREPARATION OF TOOLS AND MEASURING EQUIPMENT

- Be sure that all necessary tools and measuring equipment are available before starting any work.



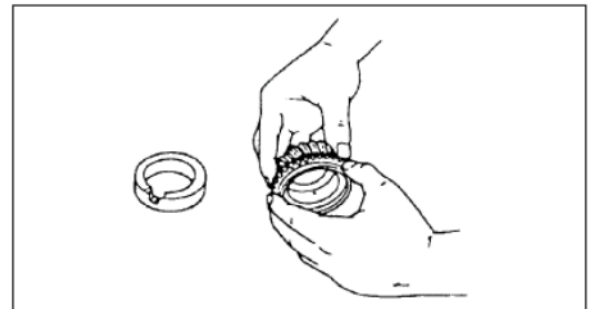
DISASSEMBLY

- If the disassembly procedure is complex, requiring many parts to be disassembled, all parts should be marked in a place that will not affect their performance or external appearance and identified so that reassembly can be performed easily and efficiently.



INSPECTION DURING REMOVAL, DISASSEMBLY

- When removed, each part should be carefully inspected for malfunction, deformation, damage, and other problems.



ARRANGEMENT OF PARTS

- All disassembled parts should be carefully arranged for reassembly.
- Be sure to separate or otherwise identify the parts to be replaced from those that will be reused.

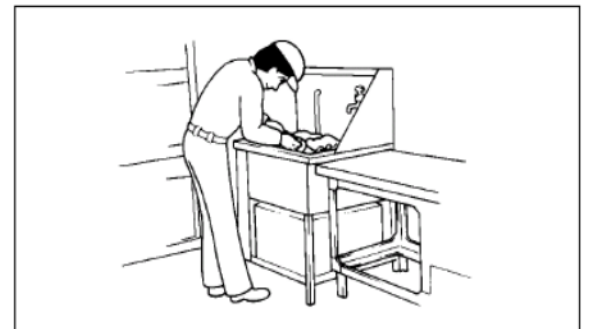


CLEANING OF PARTS

- All parts to be reused should be carefully and thoroughly cleaned in the appropriate method.

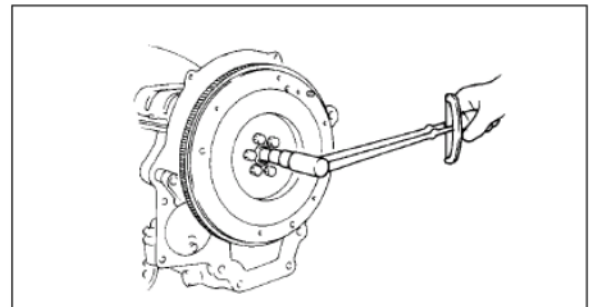
Warning

- **Using compressed air can cause dirt and other particles to fly out causing injury to the eyes. Wear protective eye wear whenever using compressed air.**



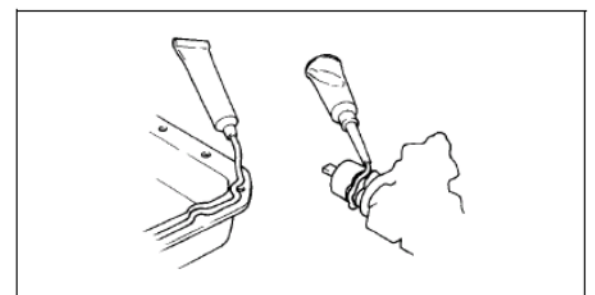
REASSEMBLY

- Standard values, such as torques and certain adjustments, must be strictly observed in the reassembly of all parts.



- If removed, these parts should replace with new ones.

- Oil seals
- Gaskets
- O-rings
- Lockwashers
- Cotter pins
- Nylon nuts



- Depending on location:
 - Sealant and gaskets, or both, should be applied to specified locations. When sealant is applied, parts should be installed before sealant hardens to prevent leakage.
 - Oil should be applied to the moving components of parts.
 - Specified oil or grease should be applied at the prescribed locations (such as oil seals) before reassembly.

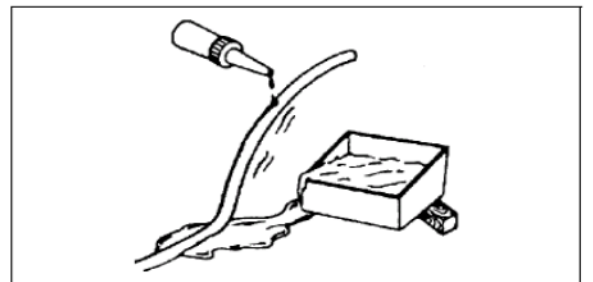
ADJUSTMENT

- Use suitable gauges and/or testers when making adjustment.



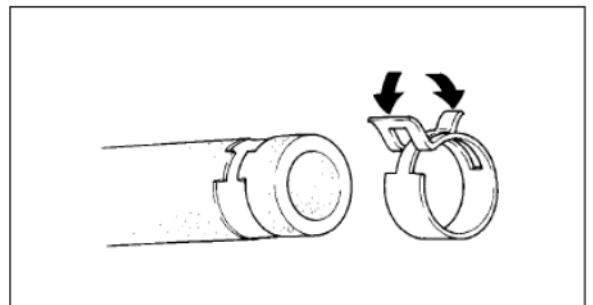
RUBBER PARTS AND TUBING

- Prevent gasoline or oil from getting on rubber parts or tubing.



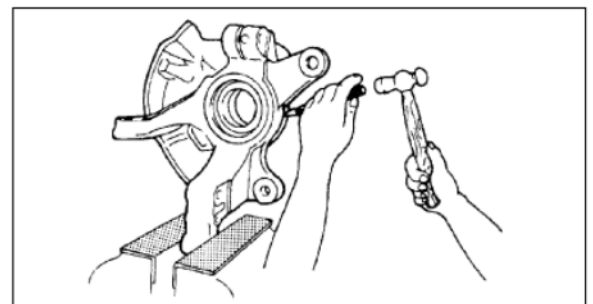
HOSE CLAMPS

- When reinstalling, position the hose clamp in the original location on the hose and squeeze the clamp lightly with large pliers to ensure a good fit.



WISE

- When using a vise, put protective plates in the jaws of the vise to prevent damage to parts.

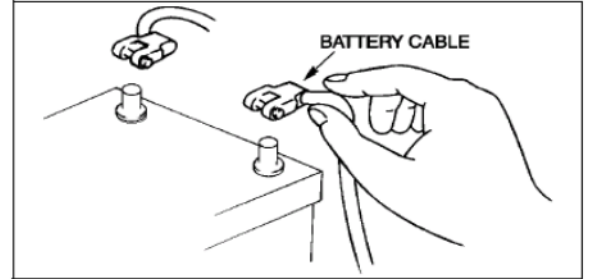


ELECTRICAL SYSTEM

ELECTRICAL PARTS

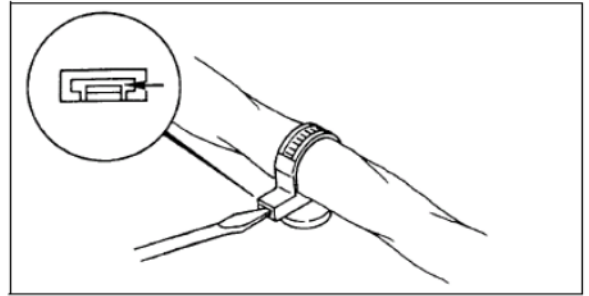
Battery cable

- Before disconnecting connector or removing electrical parts, disconnect the negative battery cable.



Wiring Harness

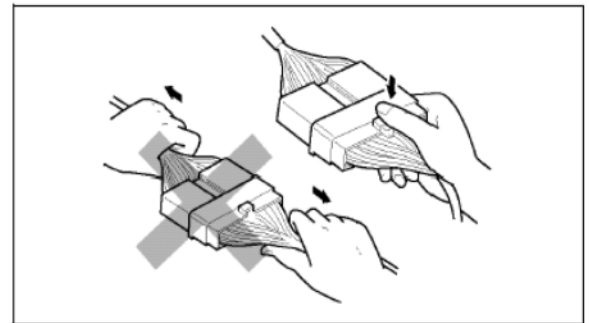
- To remove the wiring harness from the clip in the engine room, pry up the hook of the clip using a flathead screwdriver.



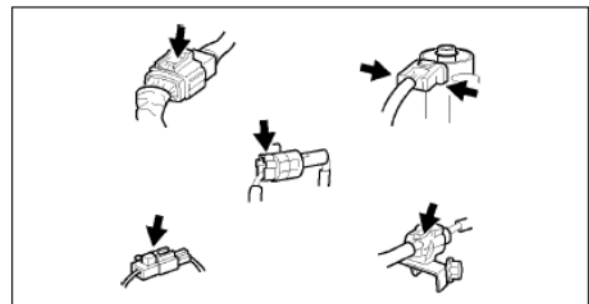
CONNECTORS

Disconnecting connectors

- When disconnecting connector, grasp the connectors, not the wires.

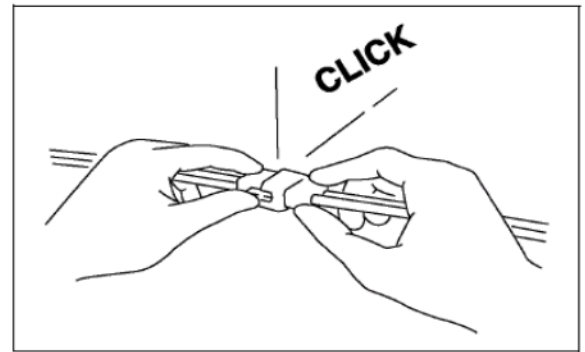


- Connectors can be disconnected by pressing or pulling the lock lever as shown.



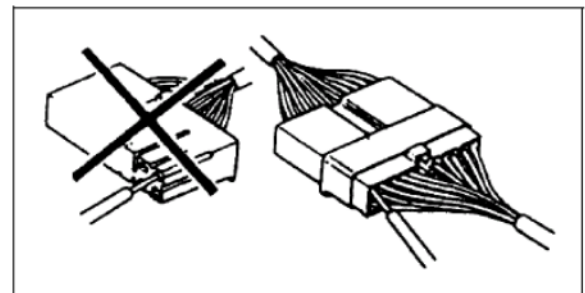
Locking connector

- when locking connectors, listen for a click indicating they are securely locked.



Inspection

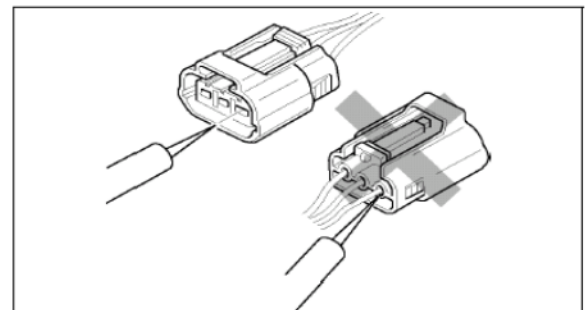
- When a tester is used to inspect for continuity or measuring voltage, insert the tester probe from the wiring harness side.



- Inspect the terminals of waterproof connectors from the connector side since they cannot be accessed from the wiring harness side.

Caution

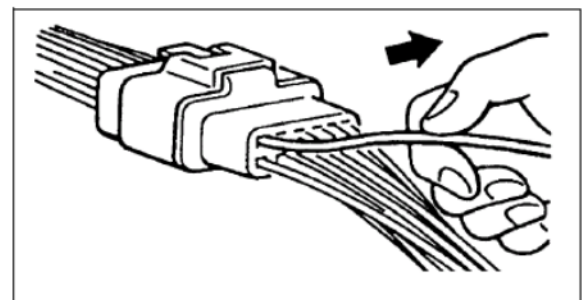
- To prevent damage to the terminal, wrap a thin wire around the tester probe before inserting into terminal



Terminals

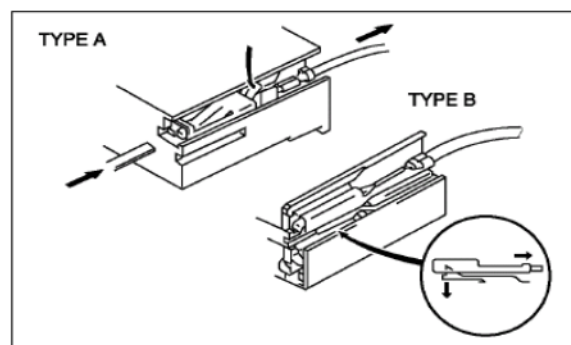
Inspection

- Pull lightly on individual wires to verify that they are secured in the terminal.



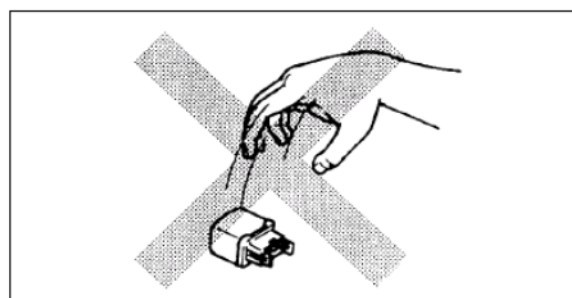
Replacement

- Use the appropriate tools to remove a terminal as shown. When installing a terminal, be sure to insert it until it locks securely.
- Insert a thin piece of metal from the terminal side of the connector and with the terminal locking tab pressed down, pull the terminal out from the connector.



Sensors, Switches, and Relays

- Handle sensors, switches, and relays carefully. Do not drop them or strike them against other objects.

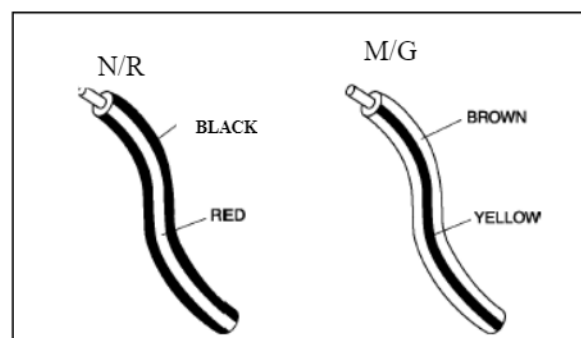


Wiring Harness

Wiring color codes

- Two-color wires are indicated by a two-color code symbol.
- The first letter indicates the base color of the wire and the second the color of the stripe.

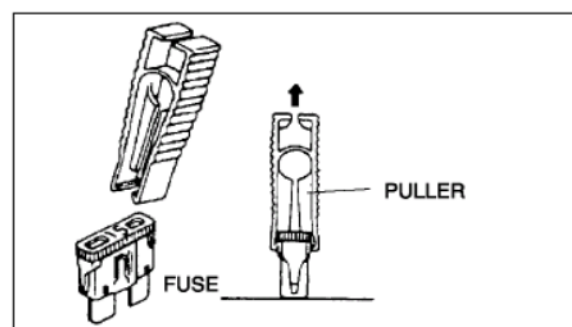
CODE	COLOR	CODE	COLOR
V	Green	R	Red
H	Gray	Z	Purple
A	Blue	B	White
N	Black	G	Yellow
M	Brown		



Fuse

Replacement

- When replacing a fuse, be sure to replace it with one of the same capacity. If a fuse fails again, the circuit probably has a short and the wiring should be inspected.
- Be sure the negative battery terminal is disconnected before replacing a main fuse.
- When replacing a pullout fuse, use the fuse puller.



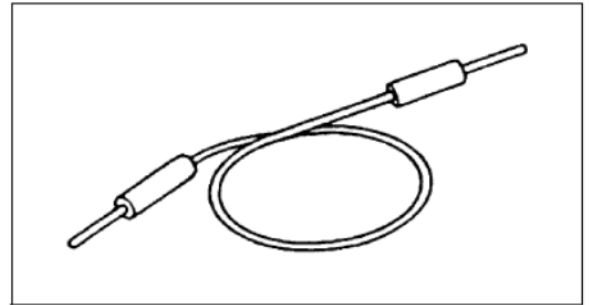
ELECTRICAL TROUBLESHOOTING TOOLS

Jumper wire

- A jumper wire is used to create a temporary circuit. Connect the jumper wire between the terminals of a circuit to bypass a switch.

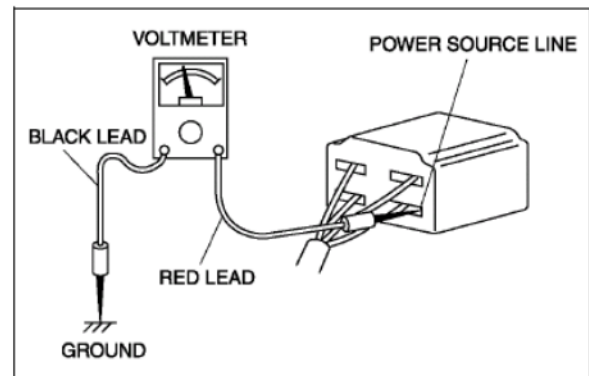
Caution

- **Do not connect a jumper wire from the power source line to a body ground. This wiring harnesses or electronic components.**



Voltmeter

- The DC voltmeter is used to measure circuit voltage. A voltmeter with a range of **15V or more** is used by connecting the positive (+) probe (red lead wire) to the point where voltage will be measured and the negative (-) probe (black lead wire) to a body ground.

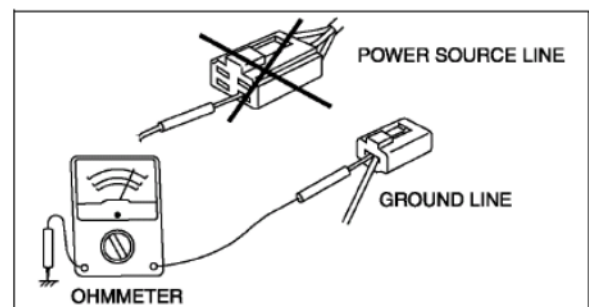


Ohmmeter

- The ohmmeter is used to measure the resistance between two points in a circuit and to inspect for continuity and short circuits.

Caution

- **Do not connect the ohmmeter to any circuit where voltage is applied. This will damage the ohmmeter.**



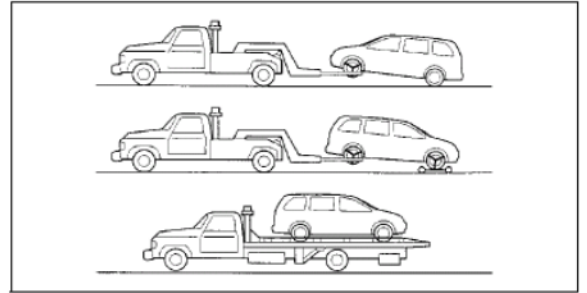
TOWING

TOWING

- Proper lifting and towing are necessary to prevent damage to the vehicle. Government and local laws must be followed.
- A towed vehicle should have its front wheels off the ground. If excessive damage or other conditions prevent this, use wheel dollies.
- When towing with the rear wheels on the ground, release the parking brake.

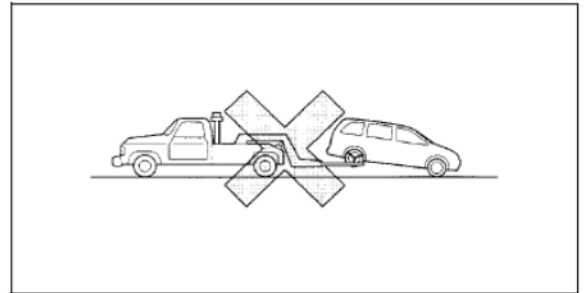
Caution

- **Do not tow the vehicle backward with driving wheels on the ground. This may cause internal damage to the transaxle.**



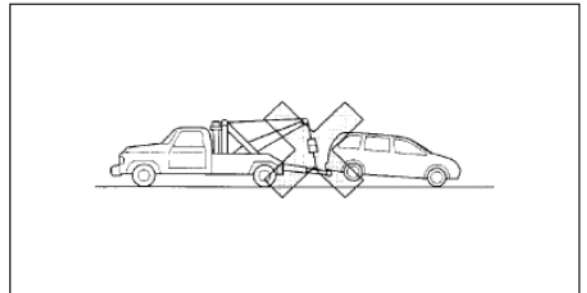
Caution

- **Do not tow with sling-type equipment. This could damage your vehicle. Use wheel-lift or flatbed equipment.**



Caution

- **Do not use the hook loops under the front and rear for towing. They are designed ONLY for tying down the vehicle when it is being transported.**



TOWING HOOKS

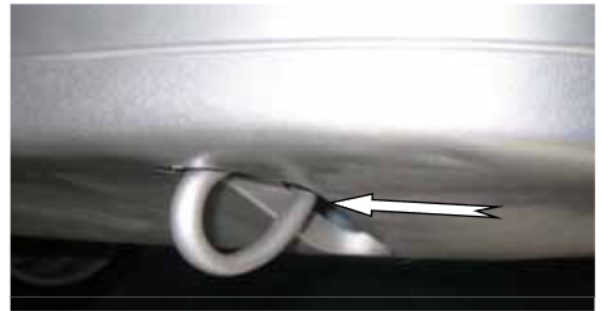
Caution

- The towing hooks should be used only in an emergency (to get the vehicle out of a ditch or a snow bank, for example).
- when using the towing hooks, always pull the cable or chain in a straight direction with respect to the hook. Apply no sideways force.

FRONT



REAR



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IDENTIFICATION NUMBER LOCATIONS

VEHICLE IDENTIFICATION NUMBER (VIN)

The VIN of Chery A series vehicle is available at two places of the engine compartment. The specific position are illustrated in the following pictures:

- VIN on Wiper Groove



- VIN on the right foot of front glass



DESCRIPTION OF VIN

LVV: International identity code of manufacturer

D: Brand of the Vehicle

A: Type of Vehicle Chassis

1: Type of Transmission

1: Type of Engine

A: Constrain System

7: Check Digit

5: Manufacture Year

D: Assembly Factory Code

023437: Production Serial Number

1. LVV is the code of vehicles manufactured by Chery Automobile Co., Ltd.
2. The fourth digit of VIN code stands for the brand of the vehicle. The brand “Chery” is represented by letter “D”.

3. The fifth digit of VIN code stands for the type of chassis of the body. The letter A stands for the chassis of three-box, five-door, and 4X2 type; B for two-box, five-door, and 4X2 type; C for three-box, four-door, two-lid, and 4X2 type; and D for two-box, five-door, and 4X4 type.
4. The sixth digit of VIN code stands for the type of transmission. 1 stands for manual transmission and 2 for automatic.
5. The seventh digit of VIN code stands for the type of engine. 1 stands for the electronic fuel injection gasoline engine of 1.5L~2.0L (excluding 2.0L) series; 2 for below 1.5L (excluding 1.5L), and 4 for 2.0L~2.5L (excluding 2.5L).
6. The eighth digit of VIN code stands for the Constrain System. A stands for manual safety belt, and B for manual safety belt and airbag in the front row.
7. The ninth digit of VIN code is the check digit. It is to check accuracy of VIN record, and is made out through computation after confirming the other sixteen digits of VIN.
8. The tenth digit of VIN code stands for the manufacture year according to the following table.

YEAR	CODE	YEAR	CODE	YEAR	CODE	YEAR	CODE
1999	X	2002	2	2005	5	2008	8
2000	Y	2003	3	2006	6	2009	9
2001	Z	2004	4	2007	7	2010	A

9. The eleventh digit of VIN code stands for the assembly factory. The “Chery Automobile Co., Ltd” is represented by the letter “D”.
10. The twelfth to the seventeenth digits of VIN code stand for production serial number.

ENGINE IDENTIFICATION NUMBER



PRE-DELIVERY INSPECTION

PRE-DELIVERY INSPECTION

PRE-DELIVERY INSPECTION TABLE

Appearance and interior

- ☐ Defects of appearance and interior
- ☐ Paint, galvanized components and interior trim
- ☐ Carrying items, tools, spare tire, operation manual for jack and keys
- Remove anti-vibration cover for tires and body protective film

Engine

- ☐ Lock and hinge of engine hood
- ☐ Poles of battery
- ☐ Electrolyte level
- ☐ Main ground
- ☐ Main fuse and spare parts
- ☐ Oil level of engine
- ☐ Coolant level and water quality
- ☐ Power steering oil level
- ☐ A/T oil level
- ☐ Glass washing liquid level
- ☐ Degree of tightness of timing belt (power steering, generator and compressor)
- ☐ Throttle control cable(A/T control cable) Close the engine hood
- Operation and Control
- ☐ Height and free distance of clutch pedal
- ☐ Height and free distance of brake pedal
- ☐ Acceleration pedal
- ☐ Inspect the indoor fuse and spare parts
- Turn ignition switch to position I
- ☐ Radio debug
- ☐ Radio/Cassette/CD and antenna

Turn ignition switch to position II

- ☐ Inspection of all the alarming lamps, defects of dynamo, hand-brake, oil pressure, brake, A/T gear display, ABS, SRS
- ☐ AT startup protector

Start engine

- ☐ The operation of battery and dynamo as well as the displays of various alarming lamps
- ☐ Idle speed
- ☐ Operation of front washer
- ☐ The operation of front wiper
- ☐ Turn signal light
- ☐ Side light and license plate light
- ☐ Head lamp and high beam light (high beam indicator)
- ☐ Switch of fog light
- ☐ Brake light and backup light
- ☐ Instrument light and light adjusting switch
- ☐ Horn
- ☐ Cigar lighter
- ☐ Operation of sun roof
- ☐ Fog-remover of rear windscreen and indicator
- ☐ Performance of air condition under each gear (refrigeration and amount of blast)
- ☐ Cycle switch
- ☐ Power rear view mirror

- ☐ Setting and checking of clock

Shut down engine

- ☐ Alarming lamp of "not shut down lamps"

Shut down all the lamps

- ☐ Self-lock function of steering wheel
- ☐ Adjusting of hand-brake
- ☐ Adjusting of steering wheel angle
- ☐ Sun visor
- ☐ Center lock and remote control(alarming sound)
- ☐ Indoor lamp
- ☐ Reading lamp
- ☐ Front & rear safety belt
- ☐ Angle of seat back and adjusting of seats
- ☐ Open of trunk lid (rear door)
- ☐ Trunk lamp
- ☐ Open of fuel filling cover and fuel grade
- ☐ Close of trunk lid and its locking

Open all the four doors

- ☐ Manual windows
- ☐ Rear door children lock
- ☐ Fill lube for lock & hinge
- ☐ Close doors and inspect the assembly

Lift car

- ☐ Wear or broken of pipes for chassis, engine, brake and fuel
- ☐ Tightening and bolts of suspension system
- ☐ M/T oil level

Lower car

- ☐ Confirm all the torques for tire nuts
- ☐ Label of tire pressure
- ☐ Tire pressure (including spare tire)
- ☐ Tool and jack

Driving test

- ☐ Driving performance
- ☐ Noise from interior, suspension and brake system
- ☐ Brake system and hand-brake
- ☐ Automatic return of steering wheel
- ☐ Vibration and its position of steering wheel
- ☐ A/T gear shift (up and down)
- ☐ Reading and canceling of odometer

Final inspection

- ☐ Cooling fan
- ☐ Idle speed/emission
- ☐ Leaking of fuel, engine oil, coolant and exhaust gas
- ☐ Performance of hot startup
- ☐ Check ABS performance with ABS tester

Final preparation

- ☐ Clean the inside and outside of car
- ☐ Check if water leaking into the car including trunk

SCHEDULE MAINTENANCE

SCHEDULE MAINTENANCE TABLE

Items	Mileage (Km)		
	5000	15000	30000
Light, warning flasher, horn: check performance		★	★
Wiper and washing system: check performance, add washer fluid if necessary		★	★
Check clutch free pedal travel, adjust it if necessary		★	★
Cooling system: check antifreeze level, replace if necessary	★	★	★
Oil: Replace	★	★	★
Oil filter: Replace	★	★	★
Engine: check leakages (oil, antifreeze, fuel, A/C system)	★	★	★
Engine: adjust valve clearance (only applied on SQR 7160 sedan)	★	★	★
Battery: check electrolyte solution level, refill distilled water if necessary		★	★
Timing belt: check belt tension and wear, adjust or replace if necessary.	★	★	★
Engine hood hinge and lock: lubricate	★	★	★
Door hinge and door stopper: lubricate	★	★	★
Spark plug: check and replace if necessary		★	★
Air filter: clean shell, clean filter element and replace it if necessary.	★	★	★
Ignition timing: check	★	★	★
Fuel filter: replace			★
Exhaust system: check if leak and damage		★	★
Wedge belt: check tension, adjust or replace as necessary		★	★
Driver: check if leak or damage		★	★
Constant velocity joint dust boot: check if damaged	★	★	★
Steering tie rod joint: check clearance and if dust boot damaged	★	★	★
Steering universal joint assembly boot: check if misplaced or damaged	★		★
Power steering system: check if power steering oil level, steering gear & rack clearance improper		★	★
Brake system: visually check if leak or damage and brake fluid level		★	★
Hand brake: check the travel, adjust if necessary		★	★
Brake lining: check its thickness	★	★	★
Under-body protective cover: check if damaged			★
Seat belt: check if damaged		★	★
Toe-in value and camber angle: measure, adjust if necessary		★	★
Ball pin: check the clearance		★	★

Items	Mileage (Km)		
	5000	15000	30000
Engine oil sump bolt: check if loose, tighten if necessary			★
Control arm rubber boot: check if damaged		★	★
Braking hose: check if aged or damaged		★	★
Braking pipe: check if damaged, eroded or leaky connection		★	★
Fuel system connections: check if aged, damaged, abnormal loosening or rubbing			★
Tire (including spare tire): check tires veins depth, adjust tire pressure, check wheel bolt tightening torque.		★	★
Tires exchange		★	★
Chassis and body connecting bolts: check if loose, tighten if necessary	★	★	★
Wheel: check if loose	★	★	★
Rear wheel hub bearing: check clearance and lubricating condition		★	★
CO content at idle: measure and adjust if necessary	★	★	★
Road test: check if all mechanism operates normally.	★	★	★
Note: For manual transmission, replace gear oil in transmission case every year or 30,000 km. Replace brake fluid every 2 years or 50,000 km.			

When driving mileage reaches 5,000 km, perform 5,000 km maintenance item.

When driving mileage reaches 10,000 km or 6 months after last service, perform 5,000 km maintenance item.

When driving mileage reaches 15,000 km or 6 months after last service, perform 15,000 km maintenance item.

When driving mileage reaches 20,000 km or 6 months after last service, perform 5,000 km maintenance item.

When driving mileage reaches 25,000 km or 6 months after last service, perform 5,000 km maintenance item.

When driving mileage reaches 30,000 km or 6 months after last service, perform 30,000 km maintenance item.

When driving mileage reaches 35,000 km or 6 months after last service, perform 5,000 km

maintenance item.

When driving mileage reaches 40,000 km or 6 months after last service, perform 5,000 km maintenance item.

When driving mileage reaches 45,000 km or 6 months after last service, perform 15,000 km maintenance item.

When driving mileage reaches 50,000 km or 6 months after last service, perform 5,000 km maintenance item.

When driving mileage reaches 55,000 km or 6 months after last service, perform 5,000 km maintenance item.

When driving mileage reaches 60,000 km or 6 months after last service, perform 30,000 km maintenance item.

When driving mileage reaches 65,000 km or 6 months after last service, perform 5,000 km maintenance item.

When driving mileage reaches 70,000 km or 6 months after last service, perform 5,000 km maintenance item.

When driving mileage reaches 75,000 km or 6 months after last service, perform 15,000 km maintenance item.

When driving mileage reaches 80,000 km or 6 months after last service, perform 5,000 km maintenance item.

When driving mileage reaches 85,000 km or 6 months after last service, perform 5,000 km maintenance item.

When driving mileage reaches 90,000 km or 6 months after last service, perform 30,000 km maintenance item.

When driving mileage reaches 95,000 km or 6 months after last service, perform 15,000 km maintenance item.