

Statement

CR508 Series Product Operating Guide

- Before using CR508 series product, please read the Guide carefully.
- The Guide is based on the current specifications and functions of the product. If the new specifications and functions are added to the product, there will be corresponding changes in the Guide.

Please carefully read the “Note”, “Remark” and “Introductions” of the Guide to ensure that you can use our products properly and safely.

CR508 Series Main Unit Maintenance and Use Attentions

- Do not allow unauthorized demolition.
- Avoid strong impact to this machine.
- Prevent it from closing to the magnetic field.
- Do not put this machine in a hot environment for a long time.
- Do not put this machine at a low temperature environment for a long time.
- Do not have the screen impacted and keep the keys clean.
- Clean the machine with soft clean cloth and neutral detergent, instead of water or chemical solvents.

Automobile Inspection Notes

- Should operate the machine according to safety rules in auto repair industry. Special attentions should be paid in order to prevent the machine from being affected or damaged because of the environmental factors such as the surrounding pH, poison gas, high pressure, heavy objects, etc.;
- Vehicle battery fluid contains sulfuric acid, while sulfuric acid is corrosive to the skin. Therefore, in operation you should protect your skin from directly contacting with battery fluid. Particularly, make sure that they won't splash into your eyes. You should also avoid closing to fire;
- Engine exhaust emissions contains a variety of toxic compounds, so you should protect yourself from inhaling them. During operating, the vehicle should be parked in a well-ventilated place;
- The temperature of the working engine is high, so you should protect yourself from contacting with high temperature components such as water tank and exhaust pipes;
- Before starting the engine, you should hold the handbrake and have gear lever placed in neutral (Guide transmission) or P gear position (automatic transmission), so as to avoid the vehicle rushing out and result in accidents when you start the engine;
- Before repairing the vehicles, you should hold parking brake well, shift transmission gear into the neutral position or P gear, and lower the glass doors and windows on the driver's side;
- If the engine can be started, you should firstly warm up it to a normal temperature (water temperature is at about 80 °C), and

close the auxiliary electrical appliances (such as air conditioning, lighting, loudspeaker, etc.);

- Find the diagnostic socket of this car, and check, confirm that whether the wires of the diagnostic socket are in good condition, and then connect the main unit for diagnosis. Otherwise, do not test, and avoid damage to the main unit. If necessary, you can use a multimeter to measure the voltage of diagnostic socket.

Instrument Use Notes

- When you use CR508 series products for testing, you must handle it with care and keep them away from heat source and electromagnetic field, so as to avoid interference with the main unit.
- When electrical components are energized, you cannot disconnect the circuit to prevent the self-inductance, mutual inductance from attacking sensors and automotive ECU.
- When electrical equipment works normally, you should avoid putting magnetic objects close to the vehicle control unit, otherwise the vehicle control unit may be damaged.
- Vehicle control unit or electrical components dismounting should be done only 1 minute after the ignition switch is turned off.

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I. Overview

CR508 is a portable fuel-way pressure tester and simulator. User can use it to quickly measure common rail pressure of car high pressure fuel way. Tedious work of fuel way removal due to use of mechanical pressure gauge is eliminated. Meanwhile, foreign matters can not be fed into the fuel pipe due to assembly or disassembly of pressure pipe. Fuel injectors and fuel injection pipe can not be damaged, thereby causing fuel leakage and other effects. In addition, CR508 also can be used for simulating fuel pressure of high pressure fuel way, and users can conveniently stimulate for searching problems on fuel way.

CR508 supports all common rail pressure sensors, including Bosch, Denso and Delphi; measurement range includes 0MPa to 200Mpa. The

accuracy is up to 0.1MPa. Adaptive measurement mode is adopted for

CR508. User do not need to select, and the product can automatically recognize type of connected sensors for rapid measurement.

CR508 can test the hyundai, KIA, Hino, Isuzu, Yanmar, Cummings, Mann, Scania, Volvo, Renault, Yi Weike, Weichai, Yuchai, DEUTZ, Detroit, Perkins, Deere John Deal, Mercedes benz BMW, Audi, Volkswagen, Toyota, Peugeot, Citroen, Nissan, Renault, Opeldiesel, engine with engineering machinery and vehicles.

As long as your joints are the following several, can test:

1. BOSCH

BOSCH Engine wire
博世发动机线束端面



Female (母头)

BOSCH Common Rail sensor
博世共轨传感器接头



Male (公头)

2. DENSO

Denso Engine Wire
电装发动机线束端面



Famale (母头)

Denso Common Rail Sensor
电装共轨传感器接头



Male (公头)

3. DELPHI

Delphi Engine Wire
德尔福发动机线束端面



Famale (母头)

Delphi Common Rail Sensor
德尔福共轨传感器接头



Male(公头)

II. Main Functions of Products:

1. Measuring Bosch Common Rail Pressure Sensor;
2. Measuring Denso Common Rail Pressure Sensor;
3. Measuring Delphi Common Rail Pressure Sensor;
4. Stimulating Bosch Common Rail Pressure Sensor;
5. Stimulating Denso Common Rail Pressure Sensor;
6. Stimulating Delphi Common Rail Pressure Sensor;

III. Product Parameters:

Screen: 84x48 LCD display

Input voltage: 8~32V

Operating current: Typical value <50mA

Operating temperature: 0-50℃

Storage temperature: -20℃ ~70℃

Relative humidity: 60%

Product dimension: 127*72*36

Host machine weight: <250g

Common rail pressure measurement scope: 0-200MPa

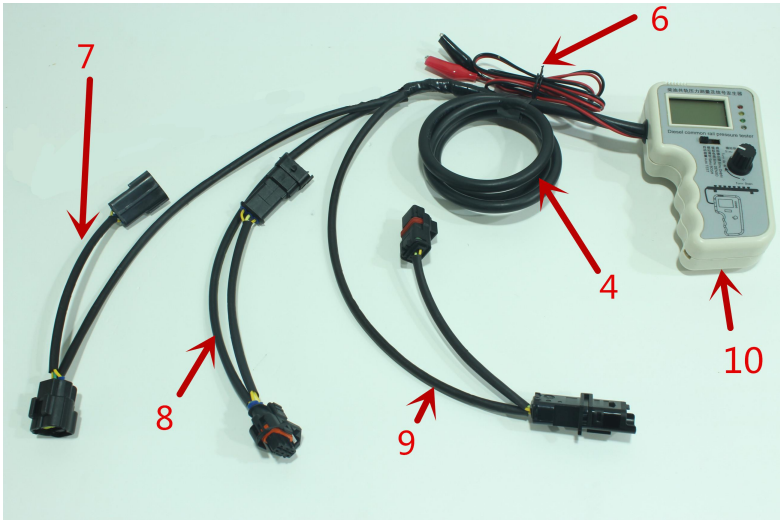
Stimulation scope of common rail pressure simulator: 0-200MPa

IV. Product Appearance and Display Interface

Introduction

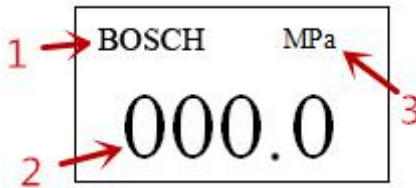
A. Product Appearance





1. LCD screen;
2. Measurement and simulation selection switch;
3. LED indicator light;
4. Common rail pressure lead;
5. Rail pressure simulation regulator;
6. Power cord;
7. Denso Common Rail Pressure Joint;
8. Bosch Common Rail Pressure Joint;
9. Delphi Common Rail Pressure Joint;
10. Host machine;

B. Display Interface



1. Measured sensor types include: BOSCH, DENSO and Delphi
2. Measurement result
3. Measurement unit

C. Description of Common Rail Pressure Joint

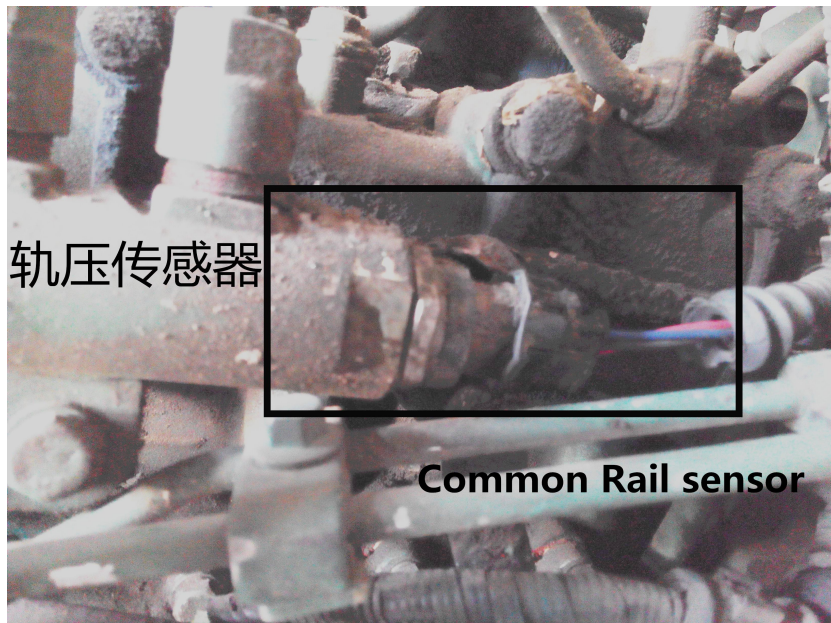
Each group of CR508 common rail pressure Joints are composed of two Joints, including one male joint and one female joint, which are connected in parallel for use.

V. Operation Methods

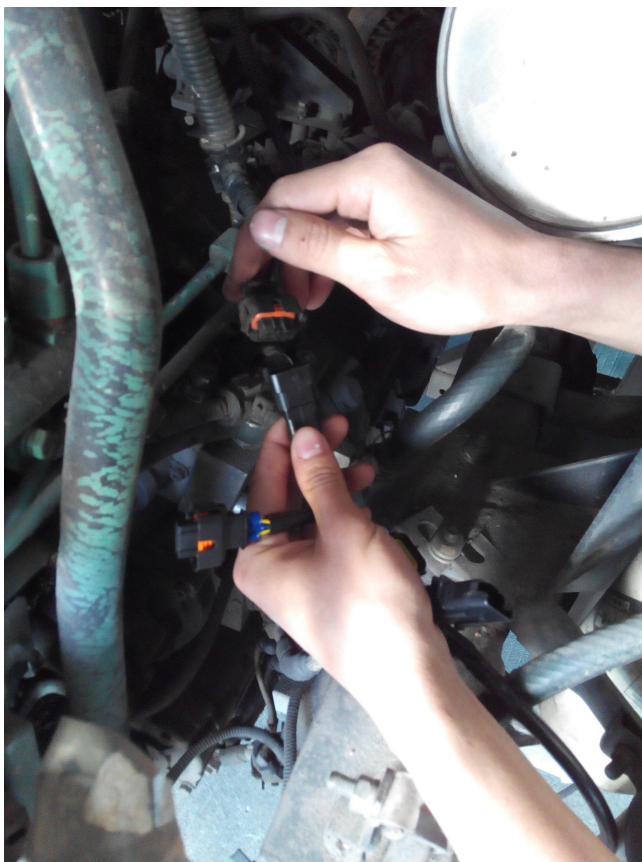
1. Common Rail Pressure Measurement

When the vehicle fuel way is abnormal, please be sure to stop the car and pull the hand brake. The key should be turn off . CR508 stimulation measurement switch is moved to automatic measuring gear. Car common

rail pressure sensor is searched. Bosch rail pressure sensor location is shown in the red box of the following figure.

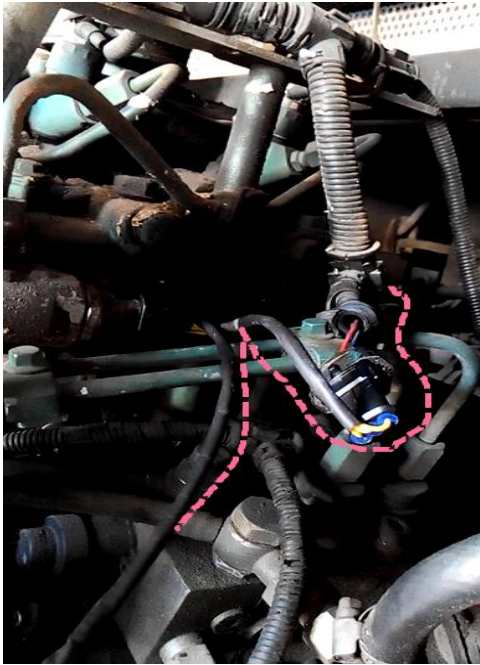


Rail pressure sensor Joint on common rail sensor is removed. Corresponding male joints of CR508 (Bosch joint for Bosch sensor, Denso joint for Denso sensor, and Delphi joint for Delphi sensor) are inserted in the sensors as shown below:



Corresponding female joints are inserted on joints connected with ECU, which are removed from sensor. Generally speaking, measurement joints of CR508 are connected in series between original car rail pressure sensor and connector. When the joint is assembled or disassembled, pin direction should be positioned, otherwise the sensor or plug can be damaged. The dashed line represents connection mode as shown in the

following figure:



The CR508 power cord is connected to the car battery, key switch is moved to the ON position for starting the car. Then CR508 will automatically boot for measuring common rail pressure. Measurement results can be displayed. Users can check problems in the fuel way according to measurement results.

The following failures can be produced due to abnormal rail pressure usually:

1. It is difficult to start engine or the engine can not be started.
2. Engine power is insufficient.
3. Engine suffers from climbing weakness.

4. The engine power is unstable and fluctuates.

2. Stimulation of Common Rail Pressure

Firstly, CR508 measurement and simulation switch is moved to sensor gear that should be stimulated. There are three gears for selection, namely simulation of Bosch rail pressure sensor, stimulation of Denso rail pressure sensor and simulation of Delphi rail pressure sensor. After corresponding gear is selected, joint of CR508 corresponding sensor is connected to the car or test platform that should be stimulated. CR508 is electrified. Then currently stimulated sensor is displayed on sensor type of the display screen. Currently stimulated rail pressure is displayed on the measurement results. The rail pressure stimulation regulator is rotated for adjusting simulated rail pressure and realizing change of rail pressure.

VI. Product Parts and List

CR508 host machine	1
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Main Cable Denso Common Rail Pressure Joint BOSCH Common Rail Pressure Joint Delphi Common Rail Pressure Joint	1