
ENGINE

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12.1 FUEL SYSTEM

1 Warning and Precaution

1.1 Warning

Be sure to observe the following instructions before repairing, to prevent property damage, personal injury or even death:

- (1) As the pressure of high pressure fuel system is high, the pressure must be released before removal.
- (2) During removal, make sure the areas near stored parts are clean and free of dirt.
- (3) Perform removal after engine cools down.
- (4) Operation staff should wear protective glasses and rubber gloves during repair and avoid inhaling much fuel gas.

1.2 Precaution

In order to avoid dangerous operation and damage to the vehicle, always follow the instructions below before repair:

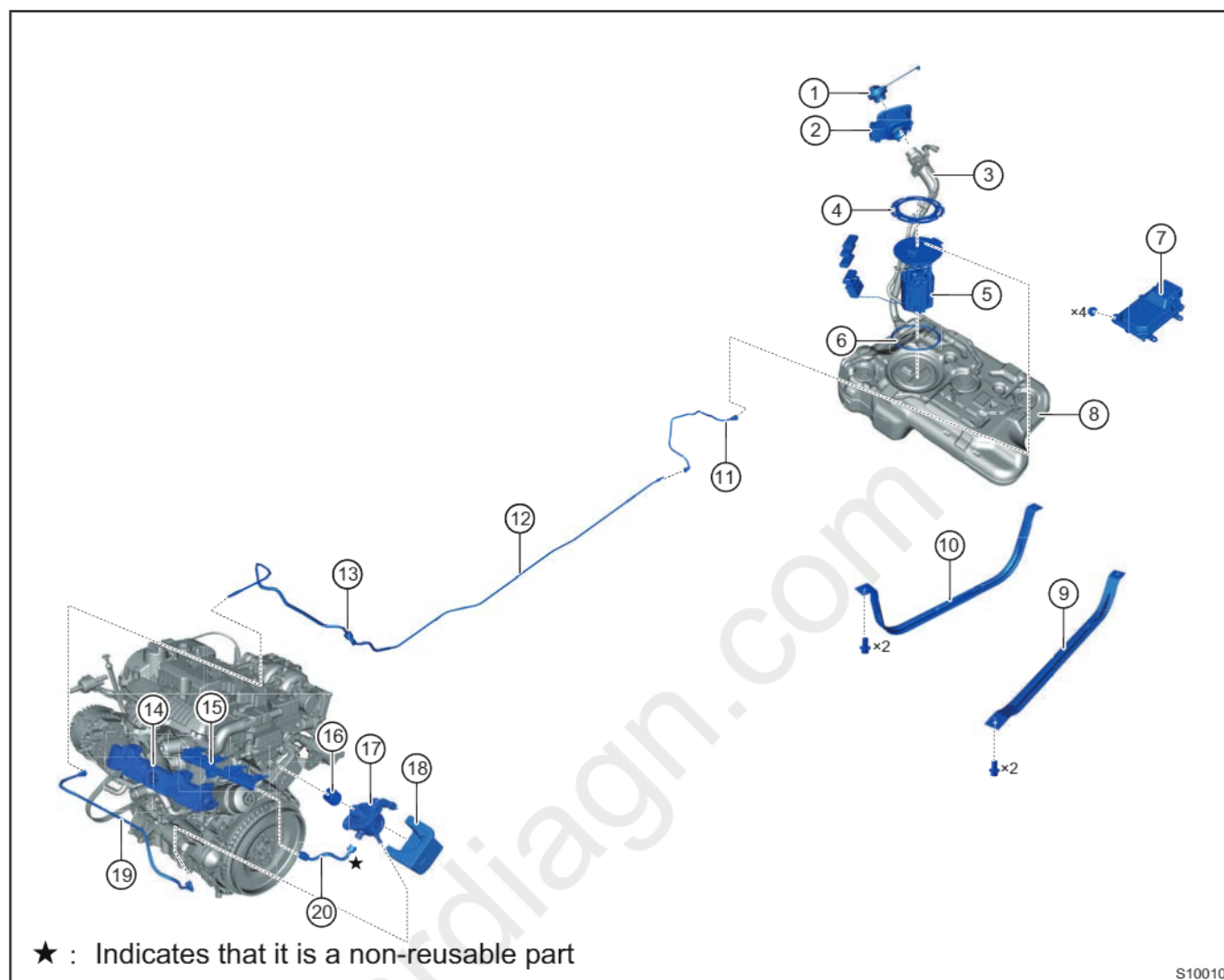
- (1) If fuel leakage occurs when operating the fuel supply system, please handle the leaked fuel in time.
- (2) When operating the fuel supply system, work area should be in good ventilation and keep fire sources or open flames away from the work area, in which fire extinguisher should be equipped.

2 System Overview

2.1 System Description

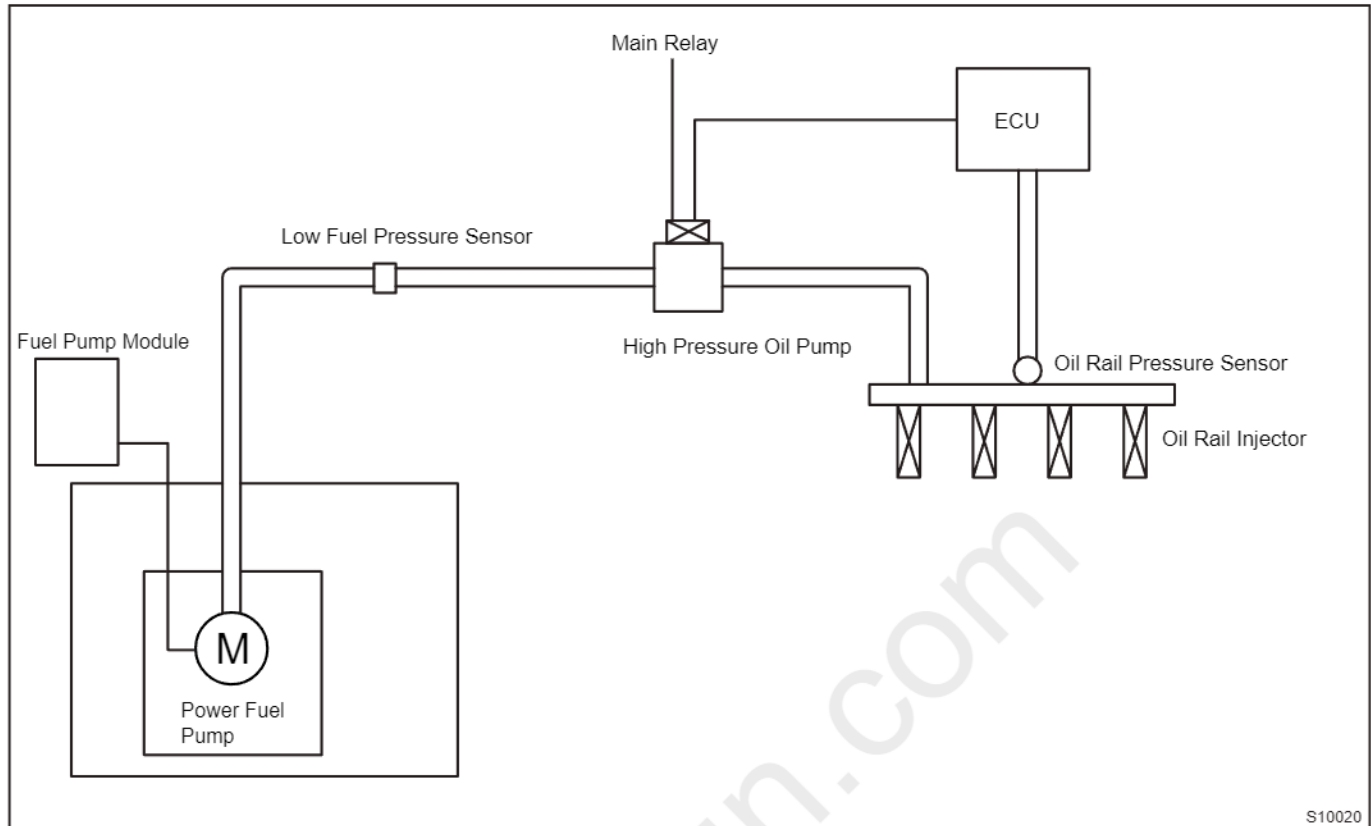
Fuel supply system of SQR4J16 engine uses direct injection in cylinder. The high pressure fuel pump is driven by square cam on intake camshaft, thus sucking fuel from the low-pressure end for compression and boosting, and the pressure can be raised up to 200 bar. ECU monitors fuel rail pressure through oil pressure sensor. Fuel is sent to fuel rail after further adjustment by the fuel pressure regulator. The vehicle adopts a direct injection system with Bosch 4-hole nozzle and a side nozzle layout; According to the control signal of ECU, fuel is injected into the combustion chamber and mixed with gas for combustion. In low pressure fuel system, fuel pump is controlled by individual fuel pump control module by means of duty ratio control, and monitors the low-pressure end pressure through low pressure fuel pressure sensor realizing closed-loop control.

2.2 System Components Diagram



1	Fuel Filler Cap	11	Fuel Pump Outlet Pipe
2	Fuel Tank Cap Assembly	12	Floor Fuel Supply Pipe
3	Fuel Filler Pipe Assembly	13	Low Pressure Fuel Pressure Sensor
4	Fuel Pump Locking Ring	14	Fuel Rail Injector Sound Insulator
5	Fuel Pump Assembly	15	Fuel Rail Injector Assembly
6	Fuel Tank Seal Ring	16	Roller Tappet
7	Fuel Pump Control Module	17	High Pressure Fuel Pump
8	Fuel Tank Assembly	18	High Pressure Fuel Pump Sound Insulator
9	Fuel Tank Fixing Strap Assembly I	19	Engine Compartment Fuel Supply Pipe
10	Fuel Tank Fixing Strap Assembly II	20	High Pressure Fuel Pipe (Fuel Pump - Fuel Rail)

2.3 System Schematic Diagram



S10020

2.4 System Components Description

■ Electric Fuel Pump

Electric fuel pump consists of pump body, DC motor and housing. Its basic operation principle is that DC motor drives the rotor in pump housing to rotate at high speed after it is energized. The section at lower end of rotor shaft combines with the section at the inner hole of impeller, so that rotor shaft drives impeller to rotate as rotor rotates. During high speed rotation of impeller, the low pressure vacuum is created at the inlet part, and then the filtered fuel is sucked from the inlet of pump cover. The sucked fuel enters the pump housing after being pressurized by fuel pump impeller and then it is pushed out of outlet to provide fuel with a certain pressure for the fuel system.



S10090

■ High Pressure Fuel Pump

High pressure fuel pump is an element specially used for direct injection engine. It functions to increase the system pressure and provide high pressure fuel for the fuel rail assembly. High pressure fuel pump supplies fuel for system as demands, thus providing a better fuel economy. It is made of stainless steel material and has a wide fuel application; also, it has the advantages of light weight, small volume, zero evaporative emission, etc.

The high pressure fuel pump uses a single plunger pump design integrated with regulator, flow control valve and pressure relief valve. Its operation principle is to drive high pressure pump plunger to move up and down by cam, thus achieving oil suction and outlet. Using the pressure sensor on fuel rail, ECU controls the flow of high pressure fuel pump through flow control valve according to the set control procedure, so as to perform closed loop control of pressure in high pressure fuel rail. Regulator functions to suppress the pressure pulsation at the low pressure end and improve the stability of system. Pressure relief valve will open when high pressure fuel rail pressure exceeds the safety limit, so as to protect the system.



S10100

■ High Pressure Fuel Pipe

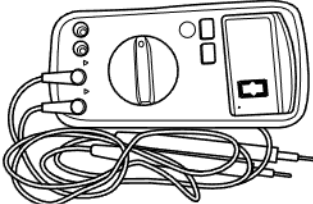
High pressure fuel pipe connects the high pressure fuel pump with the fuel rail injector assembly and delivers high pressure fuel to fuel rail injector assembly.

■ Fuel Rail Injector

The high pressure fuel distribution pipe assembly is integrated with high pressure fuel distribution pipe (fuel rail), high pressure fuel injector and high pressure sensor. Its operation is to optimize design through structure of high pressure fuel distribution pipe, the accurate fuel rail pressure signal feedback can uniformly and precisely distribute fuel for engine through injector.

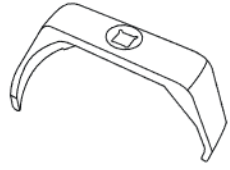
3 Special Tool and Equipment

3.1 General Tool

Tool Name	Tool Drawing
Digital Multimeter	

S00002

3.2 Special Tool

Tool Name	Part No.	Tool Drawing
Digital Multimeter	ECH-0006	 S00083

4 DIAGNOSIS & TESTING

4.1 Problem Symptoms Table

Hint:

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

Fuel System

Symptom	Possible Cause
Fuel pressure in fuel supply system is too low	Electric fuel pump assembly (strainer blocked or fuel pressure regulator damaged)
	Low fuel level
Fuel pressure in fuel supply system is too high	Fuel injector (clogged)
	Electric fuel pump assembly (fuel pressure regulator damaged)
Electric fuel pump assembly has loud noise or a delay in operating	Low fuel level
	Electric fuel pump assembly
Fuel injector is clogged or leaks	Fuel injector
	Poor fuel quality
	Excessive impurities in fuel tank
Fuel injector does not work	Fuel supply system line (broken)
	Fuel injector (short in coil)
	Electric fuel pump assembly (damaged)
	Wire harness

■ Lubrication Areas During Assembly

Lubrication Area	Note
High Pressure Fuel Pump O-ring	Engine Oil

■ Non-reusable Part

Non-reusable Part	Note
High Pressure Fuel Pipe	Replace it
Teflon Grommet of Fuel Injector	Replace it

■ High Pressure Fuel System Pressure Release

- (1) Method 1: Stop vehicle for 8 hours or more.
- (2) Method 2: Unplug high pressure fuel pump connector, and idle the engine for 10 seconds. In this case, the malfunction light on instrument cluster of vehicle will come on. After repair, connect high pressure fuel pump connector and operate it again for a period of time, then the fault will disappear.

■ Low Pressure Fuel System Pressure Release

- (1) Method 1: Turn ENGINE START STOP switch OFF and leave vehicle for 30 minutes.
- (2) Method 2: Turn ENGINE START STOP switch OFF, remove fuel pump control module power supply fuse, start engine and make it stop automatically in Idling condition, then start engine twice or three times again, and release pressure residuals from fuel pipe by starting injection.

5 ON-VEHICLE SERVICE

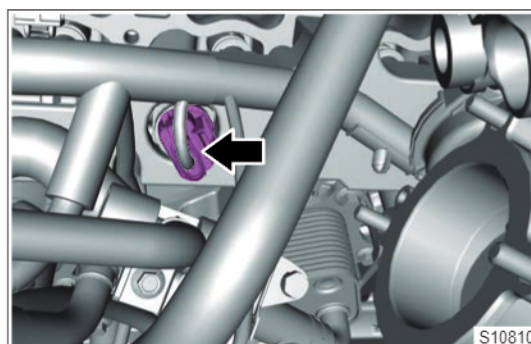
5.1 Fuel Rail Injector Assembly

■ Removal

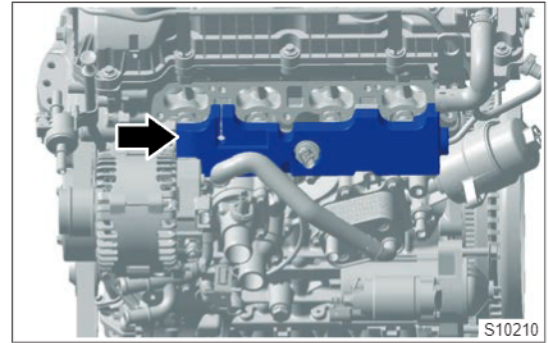
⚠ Warning

- As the pressure of high pressure fuel system is high, the pressure must be released before removal.
- During removal, make sure the areas near stored parts are clean and free of dirt.
- Teflon grommet at injector head cannot be reused after fuel rail injector is removal, and it must be replaced with a new one during installation, therefore, be sure to confirm if removal is necessary before removal.
- Perform removal after engine cools down.

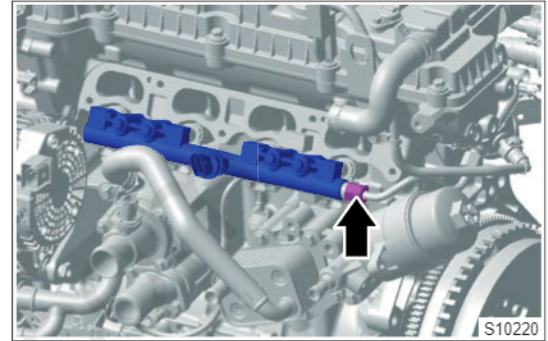
- (1) Turn off all electrical equipment and ENGINE START STOP switch.
- (2) Remove the engine compartment trim cover assembly.
- (3) Remove the negative battery cable.
- (4) Remove the intake manifold assembly.
- (5) Disconnect the fuel rail pressure sensor connector.



- (6) Remove the fuel rail injector sound insulator.



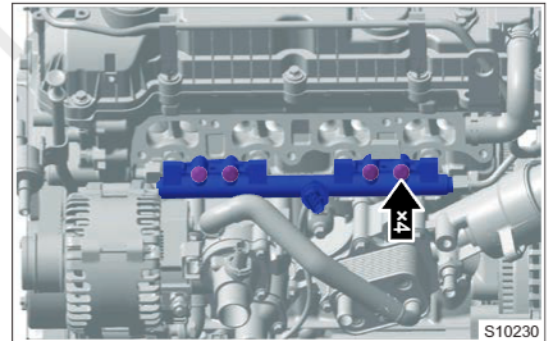
- (7) Loosen coupling nut between high pressure fuel pipe and fuel rail injector pipe joint.



- (8) Remove 4 fixing bolts from fuel rail injector and remove fuel rail injector assembly.

Hint:

The removal sequence of bolts is 1-4-2-3 (From cylinder 1 of engine, bolts are arranged in order of 1, 2, 3, 4).



■ Inspection

- (1) Check if wire harness connector of fuel rail injector assembly is abnormal.
- (2) Check connecting area between fuel rail and fuel injector for fuel leakage, and check mounting hole of fuel injector for air leakage or fuel leakage.
- (3) Use ohm band of multimeter to measure resistance between both pins of injector.

Normal value: $1.5\Omega \pm 5\%$ (23°C)

■ Installation

⚠ Caution

- If it is necessary to reassemble injector, assemble it after Teflon grommet at injector head is replaced.
- Make sure that engine cylinder head fuel injector mounting holes are clean and no foreign matter.
- Do not lubricate the sealing ring at head of fuel injector.
- During installation, align injector with mounting hole on cylinder head, and press it into mounting hole in axis direction of injector at a constant speed. If a press-fitting device is used, keep the force balance when pressing to prevent system from being damaged due to the unbalanced stress. The maximum pressing force should not be greater than 800N. After fuel rail is pressed into place, loosen the press-fitting device and insert bolt into the mounting hole on fuel rail injector, and screw 3-5 teeth into the screw hole on cylinder head.
- If no press-fitting device is available and fuel rail cannot be pressed into place, it is allowed to use a fuel rail bolt to bring it in, and tighten it several times in sequence of 3-2-4-1. It is not allowed to tighten an individual bolt directly. Tighten until fuel rail and cylinder head fit, then loosen all fuel rail bolts, and tighten fuel rail fixing bolts after fuel pipe is installed and tightened.
- It is necessary to perform self-learning of fuel injector after fuel rail injector is removed and replaced.

(1) Install 4 fixing bolts to fuel rail and loosen all fuel rail bolts after fuel rail and cylinder head fit.

⚠ Caution

- Tightening sequence of bolts: 3-2-4-1.

(2) Tighten high pressure fuel pipe nuts.

Torque: 30 ± 2 N·m

(3) Tighten fuel rail fixing bolts several times in sequence of 3-2-4-1.

Torque: 25 ± 3 N·m

(4) Tighten high pressure fuel pipe nuts again.

Torque: 30 ± 2 N·m

(5) Install fuel rail injector sound insulator.

(6) Connect the fuel rail pressure sensor connector.

(7) Install the intake manifold assembly.

(8) Install the engine compartment trim cover assembly.

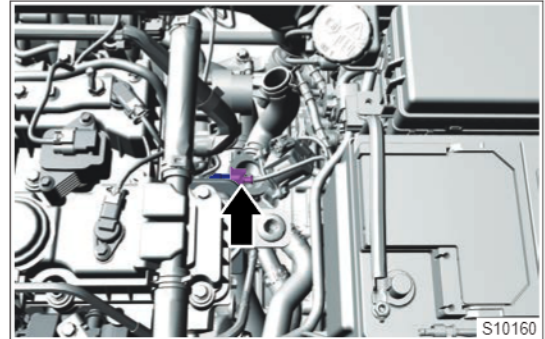
5.2 High Pressure Fuel Pump Assembly

■ Removal

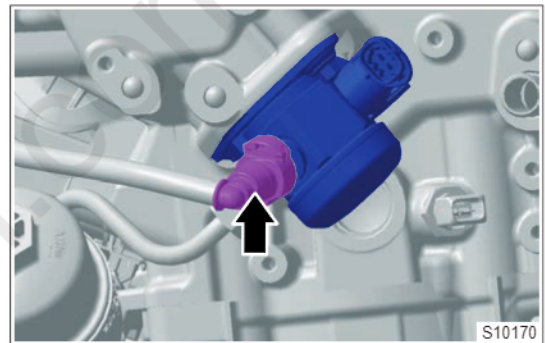
⚠ Warning

- As the pressure of high pressure fuel system is high, the pressure must be released before removal.
- Be sure to wear necessary safety equipment to prevent accidents when repairing.
- During removal, make sure the areas near stored parts are clean and free of dirt.
- There is residual fuel in high pressure fuel pump. Please pay attention to the leakage of fuel during removal to avoid fire.
- Perform removal after engine cools down.

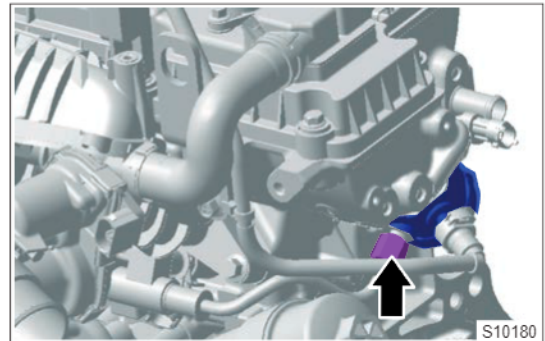
- (1) Release high pressure fuel system pressure.
- (2) Turn off all electrical equipment and ENGINE START STOP switch.
- (3) Remove the engine compartment trim cover assembly.
- (4) Disconnect the negative battery cable.
- (5) Remove the intake hose assembly.
- (6) Disconnect the high pressure fuel pump (fuel pressure regulating solenoid valve) connector.
- (7) Remove high pressure fuel pump sound insulator carefully.



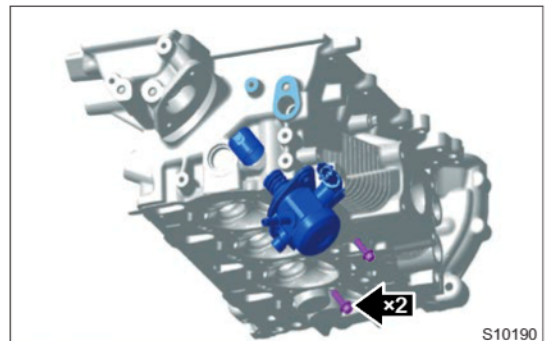
- (8) Disconnect connection between engine compartment fuel supply pipe and high pressure fuel pump.



- (9) Loosen high pressure fuel pipe joint, and disconnect connection between high pressure fuel pipe and high pressure fuel pump.



- (10) Remove 2 fixing bolts from high pressure fuel pump.



⚠ Caution

- During removal, loosen fixing bolts in turn, and then remove bolts completely. Never remove a bolt completely in one time.

(11) Rotate high pressure fuel pump gently and pull it outwards. Never swing high pressure fuel pump in radial direction.

⚠ Caution

- When pulling out high pressure fuel pump, the roller tappet may fall naturally. In order to prevent damage in falling, hold it by hand when pulling out the high pressure fuel pump.

■ Check the high pressure fuel pump

- (1) Check if high pressure fuel pump connector is abnormal.
- (2) Check resistance between both pins of high pressure fuel pump connector.
- (3) Measure resistance of high pressure fuel pump (fuel pressure regulating solenoid valve) coil.

Measurement Temperature (°C)	Coil Resistance (0 mileage) (Ω)		Coil Resistance (after driving) (Ω)	
	Minimum	Maximum	Minimum	Maximum
- 40	0.379	0.417	0.372	0.426
20	0.495	0.545	0.485	0.556
160	0.765	0.843	0.750	0.859

■ Check the roller tappet

- (1) Check if appearance of roller tappet is complete, if wear is serious, and if roller bearing can rotate smoothly.
- (2) Check if roller tappet diameter is obviously out of tolerance. If it is out of tolerance, replacement is recommended. Diameter: 26mm (-0.020, 0.055)

Hint:

If above problems occur, replacing with a new roller tappet is recommended.

■ Installation**⚠ Caution**

- Before installation, make sure the part model of high pressure fuel pump is correct and available.
- Before installation, make sure sealing caps of high pressure fuel pump joint are complete. Never use high pressure fuel pump without sealing cap.
- High pressure fuel pump O-ring must be lubricated with lubricating oil before installation.
- During installation of high pressure fuel pump, never tighten a bolt firmly in one time, and they must be tightened in turn.

- (1) Apply a coat of oil to O-ring of high pressure fuel pump, install roller tappet and high pressure fuel pump and then place them into mounting hole. When replacing, be sure to align anti-rotating pin of roller tappet with anti-rotating groove in mounting hole.
- (2) Pre-tighten fixing bolts of high pressure fuel pump several turns in order, and never tighten a bolt completely in one time. Do not use sharp tools or tap components during installation to avoid damaging high pressure fuel pipe.

Torque: 13 ± 1 N·m

- (3) Do not allow skin to contact the roller tappet directly during installation. During the operation, it is necessary to wear cleaning gloves to prevent roller tappet surface from being contaminated by sweat and foreign matters.

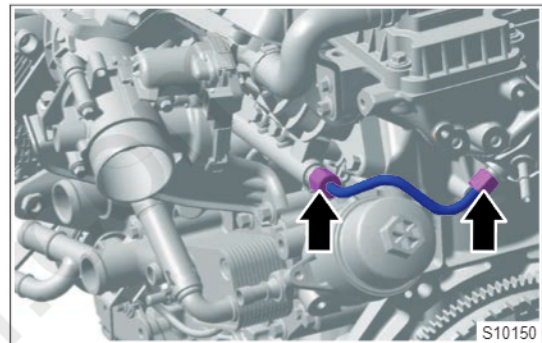
5.3 High Pressure Fuel Pipe

■ Removal

Warning

- As the pressure of high pressure fuel system is high, the pressure must be released before removal.
- Be sure to wear necessary safety equipment to prevent accidents when repairing.
- During removal, make sure the areas near stored parts are clean and free of dirt.
- Perform removal after engine cools down.

- (1) Release the high pressure fuel system pressure.
- (2) Turn off all electrical equipment and ENGINE START STOP switch.
- (3) Remove the intake hose assembly.
- (4) Remove the high pressure fuel pump sound insulator.
- (5) After pressure of high pressure fuel system is released completely, use a wrench to remove nuts on both sides of high pressure fuel pipe completely.



- (6) Remove high pressure fuel pipe.

Caution

- The removed high pressure fuel pipe should be marked with scraping marks and cannot be reused.

■ Installation

Caution

- High pressure fuel pipe is a non-reusable part, never reassemble it for a secondary use.
- Before installing high pressure fuel pipe, make sure that the part model is correct, the sealing caps on both ends of high pressure fuel pipe are intact. Never use any high pressure fuel pipe without sealing cap.
- Do not use sharp tools during installation to avoid scratching high pressure fuel pipe joint.
- During installation of high pressure fuel pipe, pay attention to avoid collision with the fuel rail injector joint and end of high pressure fuel pump joint.
- Before installing high pressure fuel pipe, confirm if fixing bolts of fuel rail injector are tightened. If they are tightened completely, loosen all of them and then install the high pressure fuel pipe.

- (1) Unplug protective cap of high pressure fuel pipe, and pre-tighten both ends of high pressure fuel pipe to high pressure fuel pump and fuel rail joint respectively in correct direction.

Torque: 20 + 2 N·m

- (2) Tighten fuel rail fixing bolts several times in sequence of 3-2-4-1.

Torque: 25 ± 3 N·m

⚠ Caution

- **Tightening sequence of bolts: 3-2-4-1.**

(3) Tighten high pressure fuel pipe nuts again.

Torque: $30 \pm 2 \text{ N}\cdot\text{m}$

5.4 Fuel Filler Cap Body Assembly

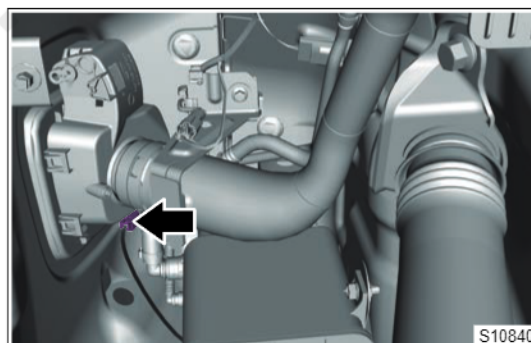
■ Removal

⚠ Warning

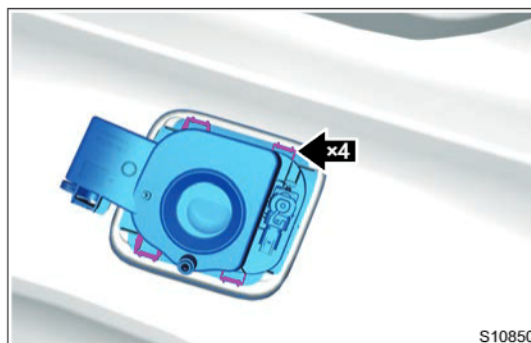
- **Before operating the fuel supply system, please touch the vehicle body to discharge static electricity; failure to do so will cause a fire, even result in an explosion.**
- **When operating the fuel supply system, work area should be in good ventilation and keep fire sources or open flames away from the work area, in which fire extinguisher should be equipped.**
- **If fuel leakage occurs when operating the fuel supply system, please handle the leaked fuel in time.**

- (1) Turn off all electrical equipment and ENGINE START STOP switch.
- (2) Disconnect the negative battery cable.
- (3) Remove the rear right wheel.
- (4) Remove the rear right wheel house protector assembly.

- (5) Disconnect fuel filler cap body actuator connector.



- (6) Insert hand into and press 4 fixing clips of electric fuel filler cap assembly from interior, push them out and remove fuel filler cap body assembly.



■ Installation

- (1) Install fuel filler cap assembly, press fuel filler cap assembly to secure the clips in place.
- (2) Connect fuel filler cap body actuator connector.
- (3) Install rear right wheel house protector assembly.
- (4) Install the rear right wheel.

5.5 Electric Fuel Pump Assembly

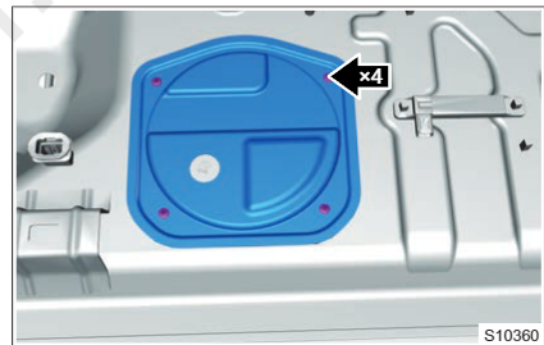
■ Removal

⚠ Warning

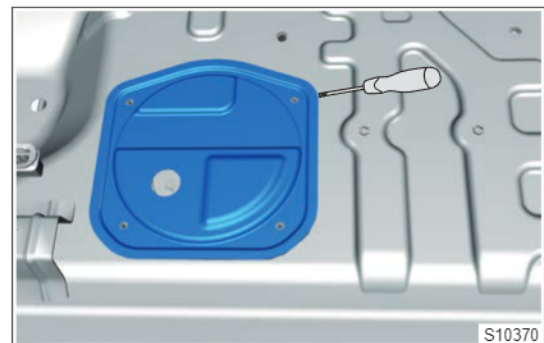
- Before operating the fuel supply system, please touch the vehicle body to discharge static electricity; failure to do so will cause a fire, even result in an explosion.
- When operating the fuel supply system, work area should be in good ventilation and keep fire sources or open flames away from the work area, in which fire extinguisher should be equipped.
- If fuel leakage occurs when operating the fuel supply system, please handle the leaked fuel in time.
- Operation staff should wear protective glasses and rubber gloves during repair and avoid inhaling much fuel gas.
- Only use parts approved by Chery Automobile Co., Ltd. to replace the electric fuel pump assembly.
- Keep electric fuel pump assembly and work area clean when replacing electric fuel pump assembly; otherwise the electric fuel pump assembly element will be clogged.
- **DO NOT** damage the disconnected fuel system line or connectors. Cover the line joints or connectors with plastic bags or equivalent, preventing foreign matter from entering.
- Keep fuel tank and line clean.

- (1) Release the low pressure fuel system pressure.
- (2) Turn off all electrical equipment and ENGINE START STOP switch.
- (3) Disconnect the negative battery cable.
- (4) Remove the rear seat cushion assembly.

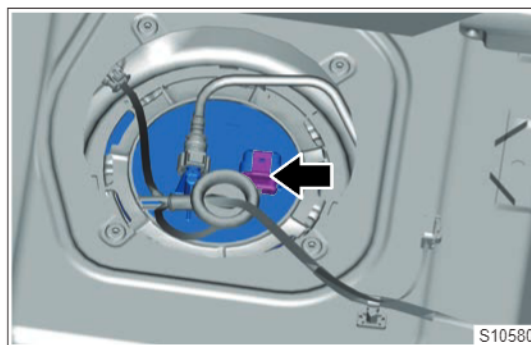
- (5) Remove 4 fixing screws from tank view window cover with a cross screwdriver.



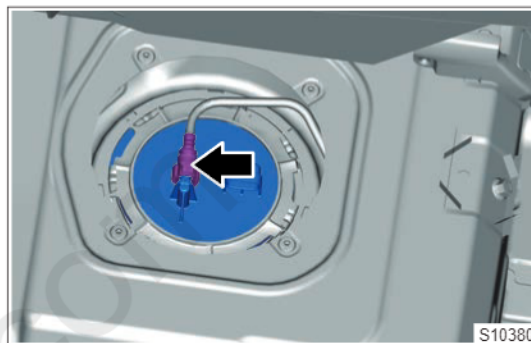
- (6) Remove tank view window cover with a flat tip screwdriver.



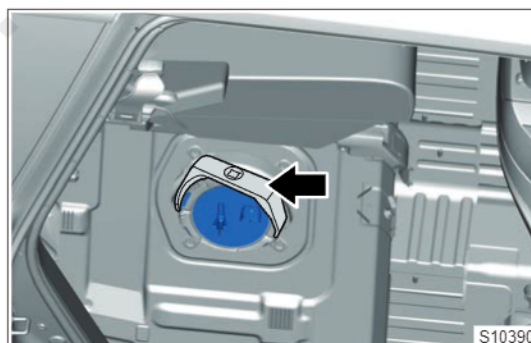
- (7) Disconnect the electric fuel pump assembly connector.



- (8) Disconnect connection between fuel pipe and electric fuel pump assembly.



- (9) Using a fuel tank pressure cap special tool, remove fuel tank pressure cap.



- (10) Remove electric fuel pump assembly from fuel tank, and dispose of fuel in electric fuel pump assembly.

⚠ Caution

- Operate carefully when taking the electric fuel pump assembly out of fuel tank, preventing damaging lines and floats.
- Cover the electric fuel pump assembly completely with a plastic bag or equivalent to prevent foreign matter from entering.
- Electric fuel pump assembly can be put into a container and taken out of the cabin, thus preventing fuel in the pump from dropping into the cabin.
- It is not allowed to perform running test for electric fuel pump assembly under dry state or in water. Otherwise service life will be reduced. In addition, do not inversely connect electric fuel pump assembly positive and negative poles.

■ Installation

Caution

- Replace fuel tank seal ring with a new one when installing electric fuel pump assembly, align it with installation position of fuel tank and do not run the electric fuel pump assembly with no fuel in fuel tank, preventing damaging electric fuel pump assembly.
- Before connecting the hose, check if there is any damage or foreign matter on the hose or joint.
- During installation, push in fuel pipe connector until a click sound is heard, then check that fuel pipe joint clip is on the collar of fuel pipe joint. After installing the pipe joint clip, check that fuel pipe joint cannot be pulled out. Be careful not to damage joint. If clip is damaged, replace it.
- Turn ignition switch to ON (without starting engine) to apply fuel pressure to fuel supply system, and then check connections for leakage.

- (1) Using a fuel tank pressure cap special tool, install fuel tank pressure cap.

Torque: 400 N·m.

- (2) Connect inlet pipe.
- (3) Connect the electric fuel pump assembly connector.
- (4) Install the rear seat cushion assembly.

5.6 Fuel Tank Assembly

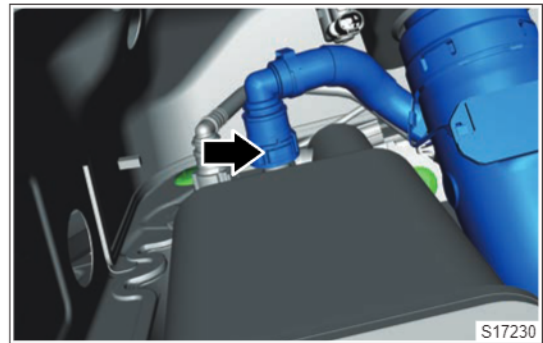
■ Removal

Warning

- Before operating the fuel supply system, please touch the vehicle body to discharge static electricity; failure to do so will cause a fire, even result in an explosion.
- When operating the fuel supply system, work area should be in good ventilation and keep fire sources or open flames away from the work area, in which fire extinguisher should be equipped.
- If fuel leakage occurs when operating the fuel supply system, please handle the leaked fuel in time.
- Operation staff should wear protective glasses and rubber gloves during repair and avoid inhaling much fuel gas.
- **DO NOT** damage the disconnected fuel system line or connectors. Cover the line joints or connectors with plastic bags or equivalent, preventing foreign matter from entering.
- Keep fuel tank and line clean.

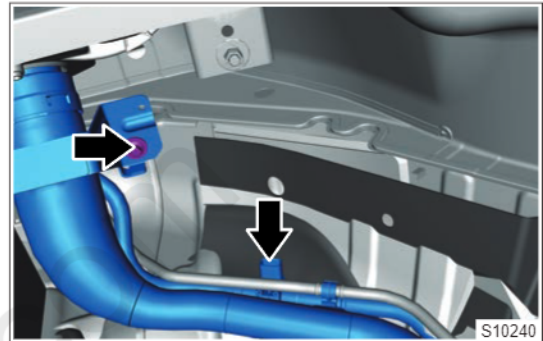
- (1) Release the low pressure fuel system pressure.
- (2) Turn off all electrical equipment and ENGINE START STOP switch.
- (3) Disconnect the negative battery cable.
- (4) Remove the intermediate propeller shaft.
- (5) Remove torque manager.
- (6) Remove the main catalytic converter and front muffler assembly.
- (7) Remove the rear right wheel.
- (8) Remove the rear right wheel house protector.
- (9) Disconnect the electric fuel pump assembly connector.

- (10) Disconnect connection between fuel filler pipe assembly and activated charcoal canister assembly.



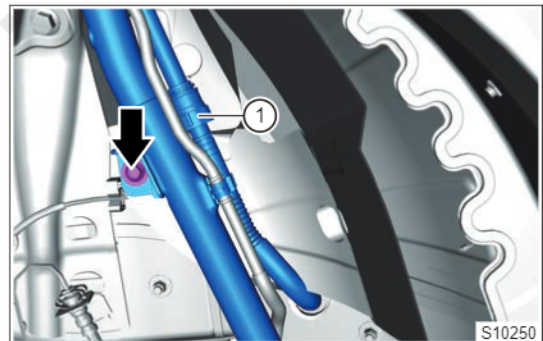
- (11) Disconnect fuel tank pressure sensor connector.

- (12) Remove 1 fixing bolt from upper part of fuel filler pipe assembly.

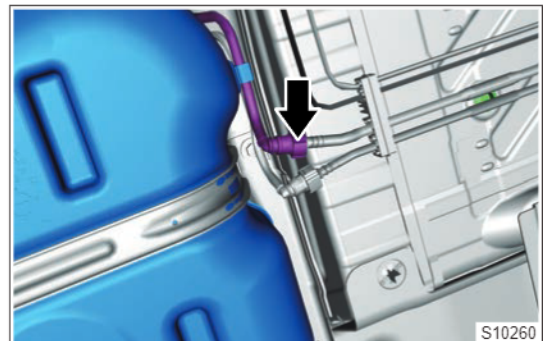


- (13) Disconnect the pipeline (1).

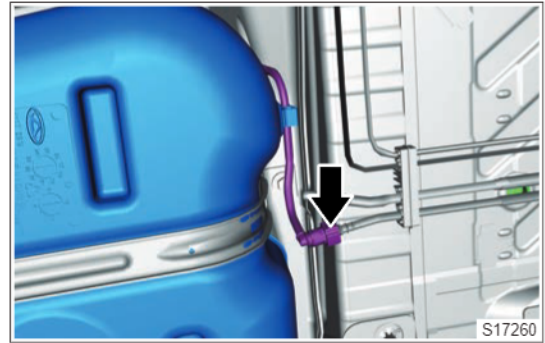
- (14) Remove 1 fixing bolt from lower part of fuel filler pipe assembly.



- (15) Disconnect the canister desorption pipeline.



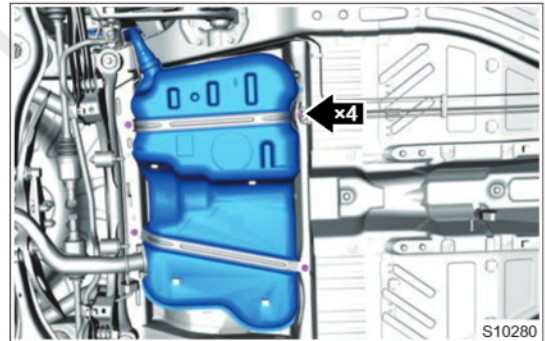
(16) Disconnect fuel pump outlet pipe.



(17) Support fuel tank assembly with a transmission carrier.



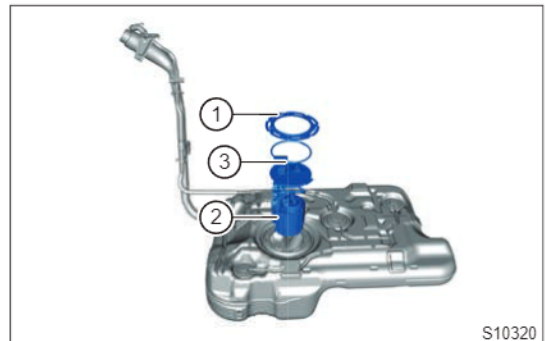
(18) Remove 4 fixing bolts between fuel tank assembly fixing straps and body connection.



(19) Lower lift to a proper position slowly, and remove fuel tank assembly carefully.

(20) Using a special tool, remove electric fuel pump pressure cap (1).

(21) Remove electric fuel pump assembly (2) and seal ring (3) from fuel tank assembly.



■ Installation

⚠ Caution

- Before connecting the hose, check if there is any damage or foreign matter on the hose or joint.
- During installation, push in fuel pipe connector until a click sound is heard, then check that fuel pipe joint clip is on the collar of fuel pipe joint. After installing the pipe joint clip, check that fuel pipe joint cannot be pulled out. Be careful not to damage joint. If clip is damaged, replace it.
- Turn **ENGINE START STOP** switch to **ON** (without starting engine) to apply fuel pressure to fuel supply system, and then check connections for leakage.

- (1) Install electric fuel pump assembly and tighten fuel tank pressure cap.

Torque: 400 N·m.

- (2) Connect the electric fuel pump assembly connector.
- (3) Install 4 fixing bolts to fuel tank assembly fixing strap.

Torque: 23 ± 2.5 N·m

- (4) Connect the canister desorption pipeline.
- (5) Connect fuel pump outlet pipe.
- (6) Install 2 fixing bolts to fuel filler pipe assembly.
- (7) Connect the fuel tank pressure sensor connector.
- (8) Connect each pipeline to corresponding joint.
- (9) Install rear right wheel house protector.
- (10) Install the rear right wheel.
- (11) Install torque manager.
- (12) Install the intermediate propeller shaft.
- (13) Install the main catalytic converter and front muffler assembly.

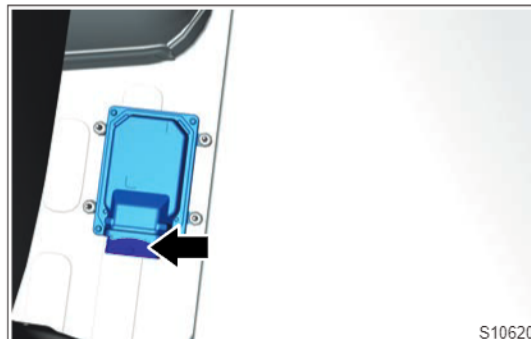
5.7 Fuel Pump Control Module

■ Removal

⚠ Warning

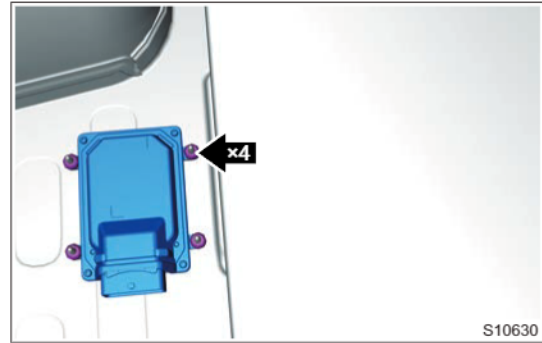
- Be sure to wear necessary safety equipment to prevent accidents when repairing.
- Try to prevent body interior from being scratched during removal and installation.

- (1) Turn off all electrical equipment and **ENGINE START STOP** switch.
- (2) Disconnect the negative battery cable.
- (3) Remove the left luggage compartment protector.
- (4) Disconnect the fuel pump control module connector.



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- (5) Remove 4 fixing nuts from fuel pump control module.



- (6) Remove the fuel pump control module.

■ Installation

- (1) Install 4 fixing nuts to fuel pump control module.

Torque: $7 \pm 1 \text{ N}\cdot\text{m}$

- (2) Connect the fuel pump control module connector.
(3) Install the left luggage compartment protector.

5.8 Fuel Rail Pressure Sensor

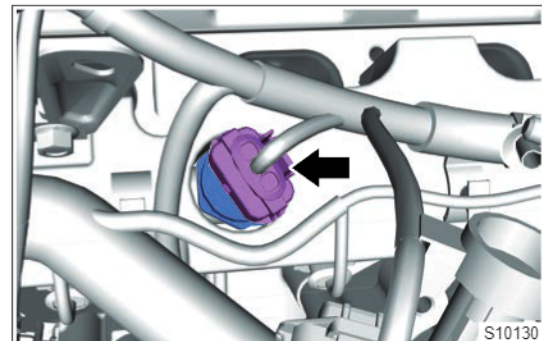
■ Removal

⚠ Warning

- Before operating the fuel supply system, please touch the vehicle body to discharge static electricity; failure to do so will cause a fire, even result in an explosion.
- When operating the fuel supply system, work area should be in good ventilation and keep fire sources or open flames away from the work area, in which fire extinguisher should be equipped.

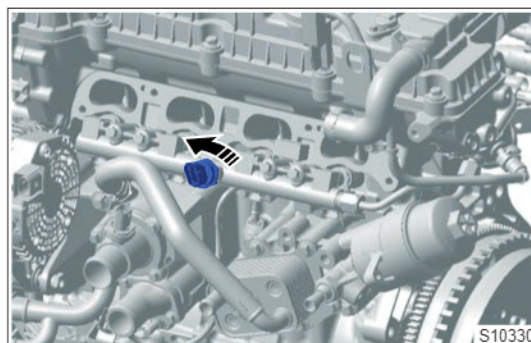
- (1) Release the high pressure fuel system pressure.
(2) Turn off all electrical equipment and ENGINE START STOP switch.
(3) Disconnect the negative battery cable.
(4) Remove the intake manifold assembly.

- (5) Disconnect the fuel rail pressure sensor connector.



- (6) Remove the fuel rail injector sound insulator.

- (7) Remove fuel rail pressure sensor counterclockwise in direction of arrow as shown in illustration.



■ Inspection

Use ohm band of multimeter to measure resistance among 3 pins of fuel rail pressure sensor (pay attention to the positive and negative orders).

Sensor Pin (corresponding to positive and negative poles of multimeter in front-and-rear sequence)	Normal Value
1 - 2	$301 \pm 100 \text{ k}\Omega$
1 - 3	$24 \pm 1 \text{ k}\Omega$
2 - 1	∞
2 - 3	∞
3 - 1	$24 \pm 1 \text{ k}\Omega$
3 - 2	$301 \pm 100 \text{ k}\Omega$

■ Installation

- (1) Install fuel rail pressure sensor.
- (2) Install fuel rail injector sound insulator.
- (3) Install the intake manifold assembly.

5.9 Low Pressure Fuel Pressure Sensor

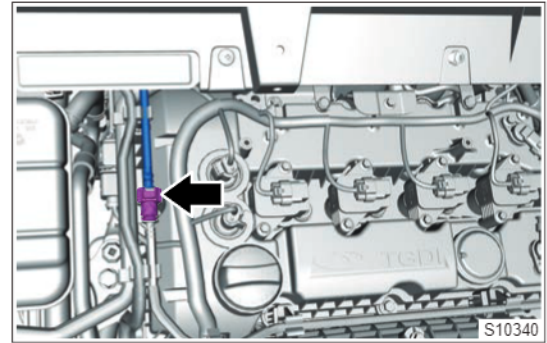
■ Removal

Warning

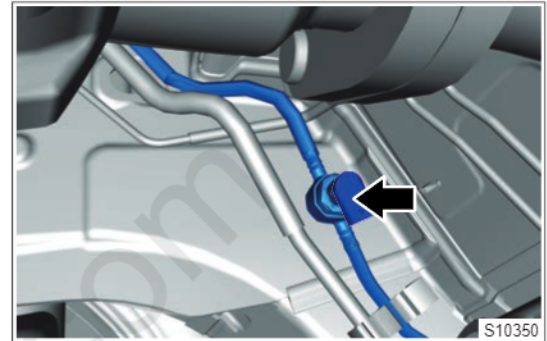
- Before operating the fuel supply system, please touch the vehicle body to discharge static electricity; failure to do so will cause a fire, even result in an explosion.
- When operating the fuel supply system, work area should be in good ventilation and keep fire sources or open flames away from the work area, in which fire extinguisher should be equipped.

- (1) Release the low pressure fuel system pressure.
- (2) Turn off all electrical equipment and ENGINE START STOP switch.
- (3) Disconnect the negative battery cable.

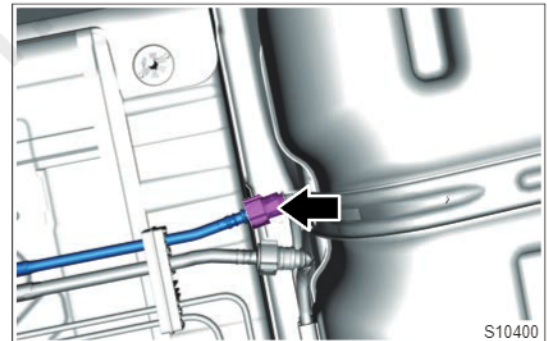
- (4) Disconnect the connection between floor fuel supply pipe and engine compartment fuel supply pipe.



- (5) Disconnect the low pressure fuel pressure sensor connector.



- (6) Disconnect the connection between floor fuel supply pipe and fuel pump outlet pipe.



- (7) Remove floor fuel supply pipe assembly from double groove pipe clamp carefully.

■ Installation

- (1) Fix floor fuel supply pipe to double groove pipe clamp.
- (2) Connect the low pressure fuel pressure sensor connector.
- (3) Connect pipe joints to fuel pump outlet pipe and engine compartment fuel supply pipe.