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شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

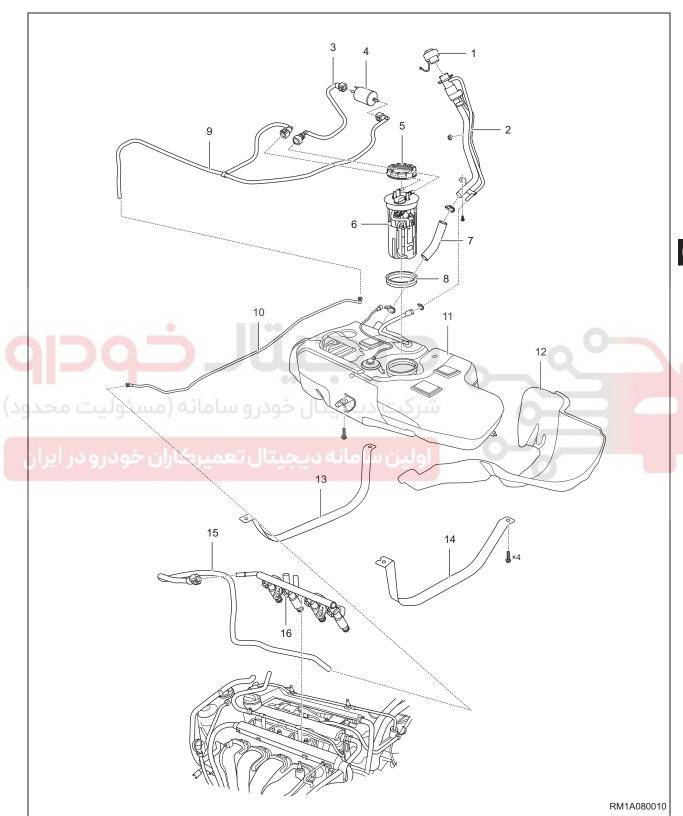






# **GENERAL INFORMATION**

# **Description**



1 - Fuel Tank Cap Assembly	2 - Filler Tube Assembly
3 - Inlet Pipe I Assembly	4 - Fuel Filter Assembly
5 - Fuel Pump Pressure Cap	6 - Electric Fuel Pump Assembly
7 - Fuel Filler Hose	8 - Fuel Tank Seal Ring
9 - Inlet and Return Pipe Assembly	10 - Inlet Pipe II Assembly
11 - Fuel Tank	12 - Fuel Tank Heat Insulator
13 - Fuel Tank Fixing Strap I	14 - Fuel Tank Fixing Strap II
15 - Inlet Pipe III Assembly	16 - Fuel Rail Injector Assembly

Engine fuel supply system provides a certain amount and concentration of combustible air-fuel mixture and supplies it to cylinder according to the requirements under various operating conditions of engine. Fuel supply system consists of fuel tank, electric fuel pump assembly, fuel filter assembly, delivery pipes, fuel rail and injectors, and it is used for fuel storage, filtration, delivery and injection. The function of fuel supply system is to provide gasoline with sufficient pressure to fuel injector by using electric fuel pump assembly, and injector injects a certain amount of gasoline to top of intake valve in intake manifold in accordance with control signals os from ECM.

# **Specifications**

### **Torque Specifications**

Desc <mark>ri</mark> ption	Torque (N·m)
Fuel Filter Bracket Clamping Bolt	7 ± 1.5
Fuel Pump Pressure Cap	80 ± 5 شرکت دیـ
Filler Tube Assembly Fixing Nut	5 ± 1
Filler Tube Assembly Fixing Screw	7 ± 1.5
Fuel Tank Fixing Bolt	23 ± 3
Fuel Tank Fixing Strap Fixing Bolt	23 ± 2
Fuel Rail Fixing Bolt	23 ± 2
Worm Clamp	2.5 ± 0.5

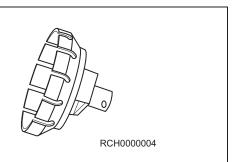
#### **Fuel Pressure Specifications**

SQRE4G15	Pressure (kPa)
Fuel Rail Fuel Pressure - Key (ON)	400
Fuel Rail Fuel Pressure - Engine Idling	400
Fuel Rail Fuel Pressure - Key (OFF)	400

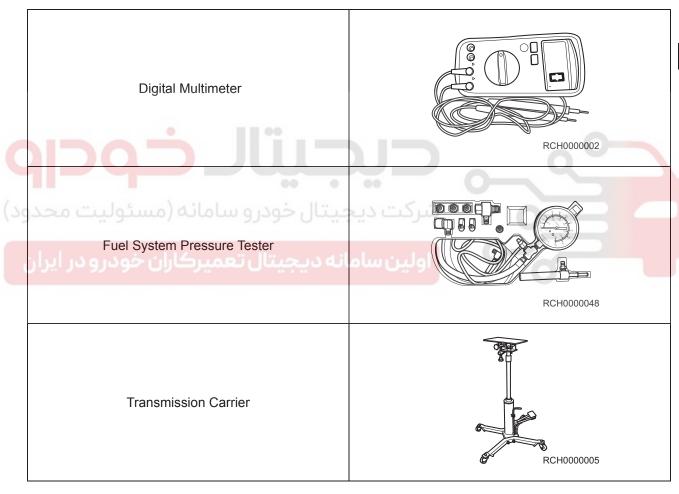
### **Tools**

### **Special Tool**

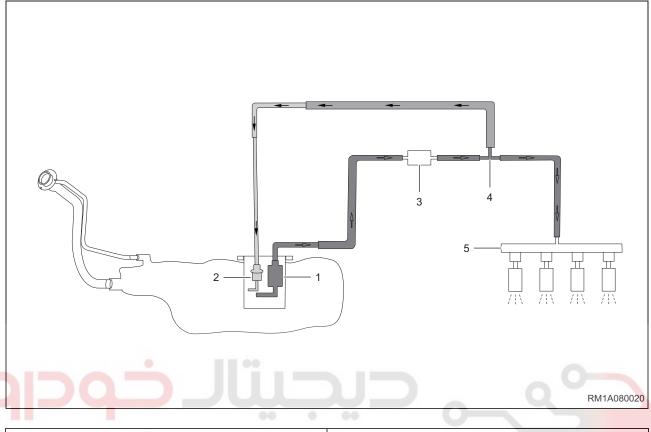
Fuel Pump Pressure Cap Remover



### **General Tools**



# **Fuel Supply System Line Connection Diagram**

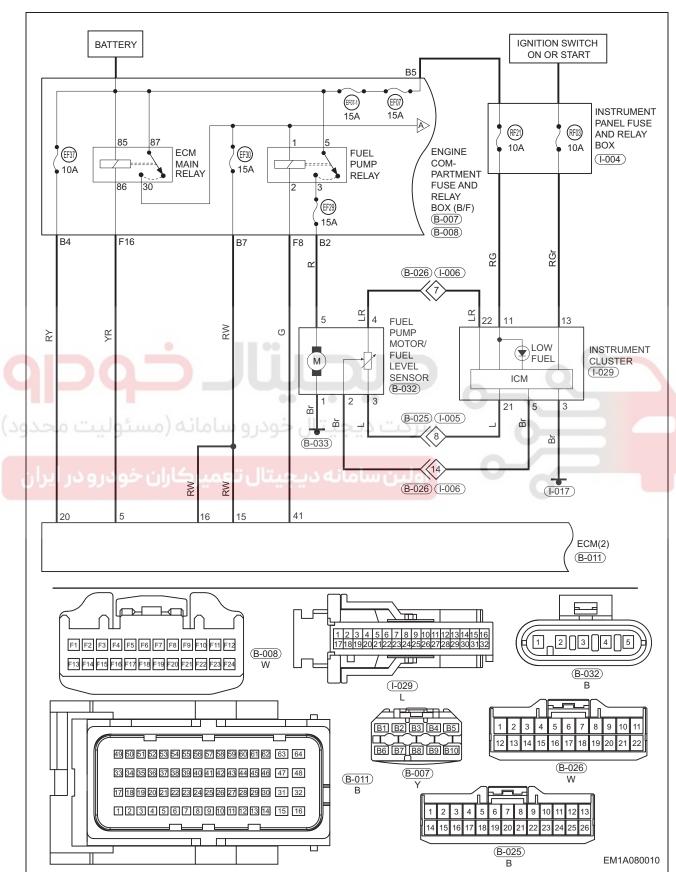


1 - Electric Fuel Pump Assembly	2 - Electric Fuel Pump Assembly Pressure Regulator	
3 - Fuel Filter Assembly	4 - Inlet and Return Pipe Assembly	
5 - Fuel Rail Injector Assembly	اولير: رساه	

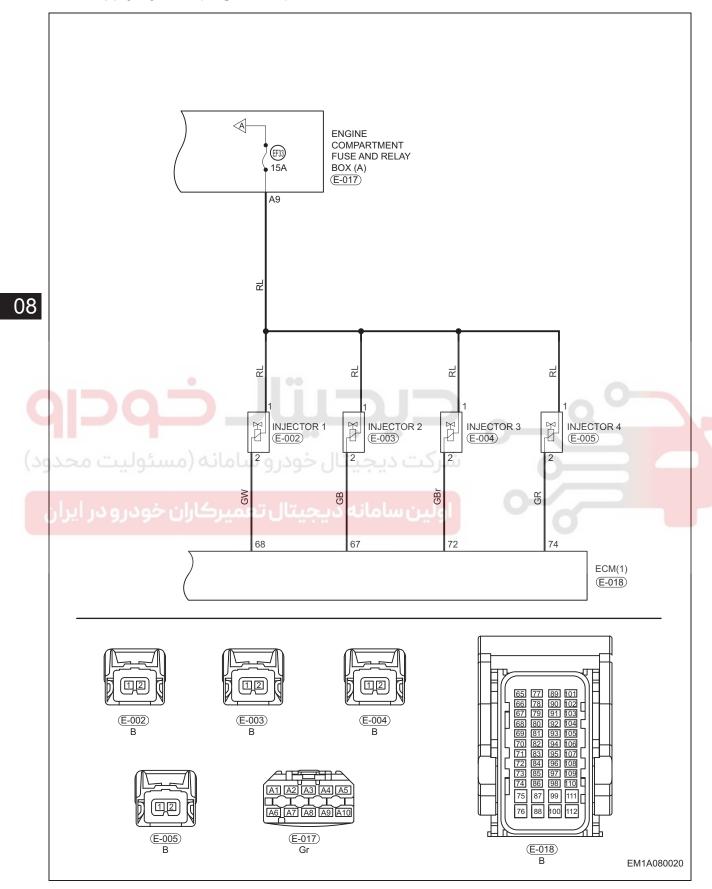
When engine operates properly, electric fuel pump assembly (1) sucks fuel from fuel tank and filters it through fuel filter assembly (3), and then deliveries it to inlet and return pipe assembly (4). Part of fuel enters fuel rail (5) and is supplied to injectors. Part of fuel flows back to electric fuel pump assembly pressure regulator (2) directly. When fuel supply system pressure is high, diaphragm spring in regulator is jacked up by pressure, then the valve opens and fuel flows out from regulator. When pressure reaches normal value, regulator shuts off and fuel stops flowing out. Finally, system pressure reaches a steady state.

## **Circuit Diagram**

### Fuel Supply System (Page 1 of 2)



### Fuel Supply System (Page 2 of 2)



## **DIAGNOSIS & TESTING**

# **Problem Symptoms Table**

#### HINT:

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

Symptom	Suspected Area	See page
	Fuel filter assembly (clogged)	08-13
Fuel pressure in fuel supply system is too low	Electric fuel pump assembly (strainer blocked or fuel pressure regulator damaged)	08-15
	Low fuel level	
	Fuel injector (clogged)	08-26
Fuel pressure in fuel supply system is too high	Electric fuel pump assembly (fuel pressure regulator damaged)	08-15
	Low fuel level	-
Electric fuel pump assembly has loud noise or a delay in operating	Electric fuel pump assembly relay	-
or a delay in operating	Electric fuel pump assembly	08-15
	Fuel filter assembly (clogged)	08-13
Fuel injector is cleared or locked	Fuel injector	08-26
Fuel injector is clogged or leaked	Poor fuel quality	-
	Excessive impurities in fuel tank	-
عبتال تعميركاران خودرو در ايرار	Fuel supply system line (broken)	
	Fuel injector (short in coil)	08-26
Fuel injector does not work	Electric fuel pump assembly (damaged)	08-15
	Wire harness	-

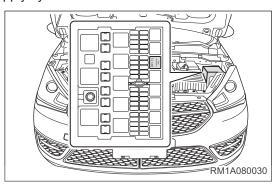
# **Fuel System Pressure Release**

### **⚠** WARNING

 When engine is not operating, fuel pressure in fuel supply system is still high. Before repairing or disconnecting fuel line or fuel supply system components, it is necessary to release the fuel supply system pressure to prevent fuel from spraying out accidentally. Failure to follow these instructions may result in serious personal injury or death.

Perform following procedures to release fuel pressure in fuel supply system:

1. Recognize and remove electric fuel pump assembly relay from engine compartment relay box.



- 2. Start and run engine until it stalls.
- 3. Restart engine until it does not run.
- 4. Turn ignition switch to OFF.
- 5. Disconnect the negative battery cable.
- 6. Insert electric fuel pump assembly relay into original position.





# **Fuel Supply System Pressure Test**

#### **Fuel Pressure Specifications**

SQRE4G15	Pressure (kPa)
Fuel Rail Fuel Pressure - Key (ON)	400
Fuel Rail Fuel Pressure - Engine Idling	400
Fuel Rail Fuel Pressure - Key (OFF)	400

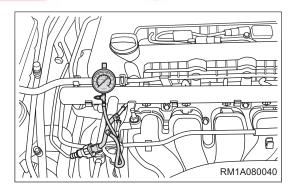
#### **⚠** WARNING

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

08

### **CAUTION**

- Make sure that battery voltage is 11 to 12 V.
- Service mileages of fuel filter assembly should be within 5000 km.
- Make sure that fuel supply system lines are securely connected, preventing fuel supply system from leaking.
- 1. Release the fuel system pressure (See page 08-10).
- 2. Remove the engine trim cover.
- 3. Disconnect inlet hose connector and connect fuel supply system pressure tester between inlet hose and fuel rail.



- 4. Start engine and run it at idle, and then read value on pressure tester.
  - Standard pressure at idle should be higher than 400 kPa.
  - If measured pressure value is lower than 400 kPa, check fuel filter assembly for blockage.
     Replace fuel filter assembly if necessary (See page 08-13).
  - If measured pressure value is lower than 400 kPa and fuel filter assembly operates properly, check electric fuel pump assembly. Replace as necessary.
  - If measured pressure value is too high, injector may be clogged or electric fuel pump assembly pressure modulating valve may be malfunctioning.
    - Replace injector (See page 08-26) or electric fuel pump assembly (See page 08-15) if necessary.





### **ON-VEHICLE SERVICE**

# **Fuel Filter Assembly**

#### Removal

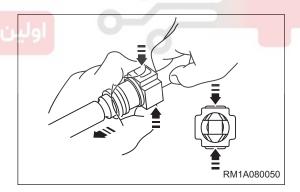
### **⚠** WARNING

- Before operating fuel supply system, please touch vehicle body to discharge static electricity; failure to do so will cause a fire, even result in an explosion.
- When operating fuel supply system, work area should be in good ventilation and keep fire sources or open flames away from work area, in which fire extinguisher should be equipped.
- After performing procedures for fuel system pressure release, there still remains some pressure in fuel line. When disconnecting fuel line, cover the joint with a piece of cloth or equivalent to prevent fuel from spraying out.
- If fuel leakage occurs when operating fuel supply system, please handle the leaked fuel in time.

#### CAUTION

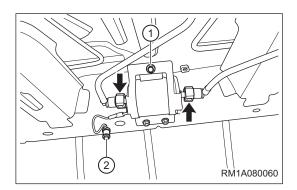
- DO NOT damage disconnected fuel system line or connectors. Cover line joints or connectors with plastic bags or equivalent, preventing foreign matter from entering.
- Be sure to wear necessary safety equipment to prevent accidents when repairing.
- Try to prevent body paint surface from being scratched during removal and installation.

Disconnection way for all fuel pipe coupling joints in following procedures is shown in illustration.



- 1. Release the fuel supply system pressure (See page 08-10).
- 2. Turn off all electrical equipment and the ignition switch.
- 3. Disconnect the negative battery cable.
- 4. Raise vehicle to a proper height.

- 5. Remove the fuel filter with cord assembly.
  - a. Remove the fuel filter bracket clamping bolt (1).
     (Tightening torque: 3 ± 0.5 N·m)
  - b. Disconnect coupling joints (arrow) on both ends of fuel filter assembly.
  - c. Remove the fuel filter fixing nut (2).
     (Tightening torque: 3 ± 0.5 N⋅m)



d. Remove fuel filter assembly from fuel filter bracket.

### **CAUTION**

- Cover both ends and joints of fuel filter assembly with plastic bags or equivalent to prevent foreign matter from entering.
- · Drain the remaining fuel in fuel filter.

#### ENVIRONMENTAL PROTECTION

 Removed fuel filter assembly should be handled by specialized department according to local laws and regulations. Never discard it at will.

#### Installation

Installation is in the reverse order of removal.

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#### **CAUTION**

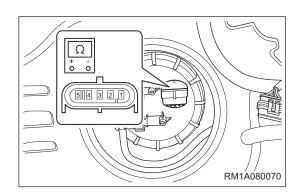
- · Before connecting hose, check if there is any damage or foreign matter on hose or joint.
- During installation, push in fuel pipe joint clip until a click sound is heard from coupling joint, then check that fuel pipe joint clip is on the collar of fuel pipe joint. After installing pipe joint clip,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

# **Electric Fuel Pump Assembly**

### On-vehicle Inspection

- 1. Inspect the electric fuel pump fuel level sensor.
  - a. Carefully open the electric fuel pump assembly protective cap.
  - b. Disconnect the electric fuel pump assembly connector.
  - c. Using a digital multimeter, measure resistance of fuel level sensor based on fuel volume in fuel tank.

Fuel Level Indicator	Multimeter Connection	Specification (Ω)
E	Terminal 3 - Terminal 2	275 ± 5
1/4	Terminal 3 - Terminal 2	165 ± 4
1/2	Terminal 3 - Terminal 2	97 ± 4
3/4	Terminal 3 - Terminal 2	79 ± 3
	Terminal 3 - Terminal 2	32 ± 3



08

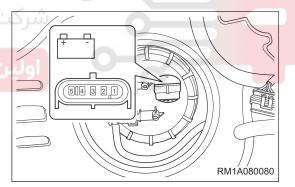
- If result is not as specified, replace fuel level sensor.
- 2. Check the electric fuel pump assembly operation.
  - Using a screwdriver wrapped with protective tape, pry off electric fuel pump assembly protective cap.
  - b. Disconnect the electric fuel pump assembly connector.
  - c. Apply battery voltage to terminals 5 and 1. Check if electric fuel pump assembly operates within 10 seconds.

#### HINT:

- These tests must be finished within 10 seconds to prevent coils from being burnt.
- Keep electric fuel pump assembly as far away from battery.
- Always switch voltage on and off on battery side, rather than the electric fuel pump assembly side.

Battery Connection	Specification
Battery positive (+) - Terminal 5	Fuel pump
Battery negative (-) - Terminal 1	operates

If electric fuel pump assembly does not operate, replace it.



#### Removal

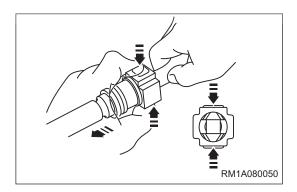
#### **⚠** WARNING

- Before operating fuel supply system, please touch vehicle body to discharge static electricity; failure to do so will cause a fire, even result in an explosion.
- When operating fuel supply system, work area should be in good ventilation and keep fire sources or open flames away from work area, in which fire extinguisher should be equipped.
- After performing procedures for fuel system pressure release, there still remains some pressure in fuel line. When disconnecting fuel line, cover the joint with a piece of cloth or equivalent to prevent fuel from spraying out.
- If fuel leakage occurs when operating fuel supply system, please handle the leaked fuel in time.

#### CAUTION

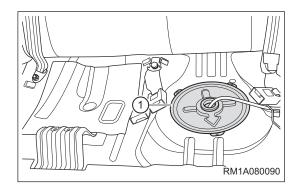
- Be sure to wear necessary safety equipment to prevent accidents when repairing.
- Try to prevent body paint surface from being scratched during removal and installation.
- Operation staff should wear protective glasses and rubber gloves during repairs and avoid inhaling much fuel gas.
- Only use parts approved by Chery Automobile Co., Ltd. to replace electric fuel pump assembly.
- As electric fuel pump assembly radiates through fuel, low fuel level in fuel tank will directly shorten the service life of electric fuel pump assembly.
- Keep electric fuel pump assembly and work area clean when replacing electric fuel pump assembly;
   otherwise electric fuel pump assembly element will be clogged.
- DO NOT damage disconnected fuel system line or connectors. Cover line joints or connectors with plastic bags or equivalent, preventing foreign matter from entering.
- Keep fuel tank and line clean, and replace fuel filter assembly if electric fuel pump assembly has been
  replaced.

Disconnection way for all coupling joints in following procedures is shown in illustration.

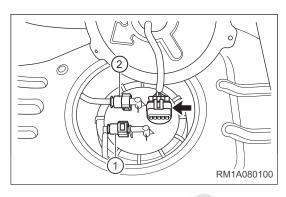


- 1. Release the fuel system pressure (See page 08-10).
- 2. Turn off all electrical equipment and the ignition switch.
- 3. Disconnect the negative battery cable.
- 4. Open fuel tank cap assembly and discharge fuel vapor in fuel tank.
- 5. Remove the rear seat cushion (See page 47-15).

- 6. Remove the electric fuel pump assembly.
  - a. Using a screwdriver wrapped with protective tape, pry off electric fuel pump assembly protective cap (1).



- b. Disconnect the electric fuel pump assembly connector (arrow).
- c. Disconnect coupling joint (1) between electric fuel pump assembly and inlet pipe I assembly.
- d. Disconnect coupling joint (2) between electric fuel pump assembly and inlet and return pipe assembly.

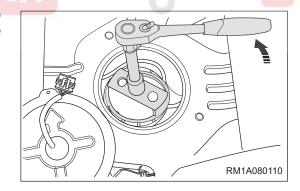


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#### **CAUTION**

- Before disconnecting joints, remove all dirt and foreign matter from electric fuel pump assembly pressure cap.
- DO NOT forcefully bend or twist delivery pipes.
  - e. As shown in illustration, use special tool (fuel pump pressure cap remover) to remove fuel pump pressure cap.

(Tightening torque: 80 ± 5 N·m)



f. Take electric fuel pump assembly out of fuel tank.

#### CAUTION

- Operate carefully when pulling electric fuel pump assembly out of fuel tank, preventing damaging pipes, wire harnesses and floats.
- Cover 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 cabin, thus preventing fuel in 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 positive and negative poles of electric fuel pump assembly.
- To keep fuel tank clean, cover it completely with a plastic bag or equivalent to prevent foreign matter from entering.
  - g. Drain fuel in electric fuel pump assembly.

## 08 Installation

Installation is in the reverse order of removal.

#### CAUTION

- DO NOT connect battery during installation. Work area should be in good ventilation and keep fire sources or open flames away.
- 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 without fuel in fuel tank,
  preventing damaging electric fuel pump assembly.
- Before connecting hose, check if there is any damage or foreign matter on 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 fuel pipe joint clip, check that fuel pipe joint cannot be pulled out. If clip is damaged, replace it with a new one.
- Turn ignition switch to ON (without starting engine) to apply fuel pressure to fuel supply system, and then check connections for leakage.

## **Filler Tube Assembly**

#### Removal

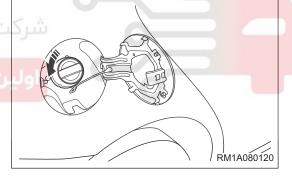
### **⚠ WARNING**

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

#### **CAUTION**

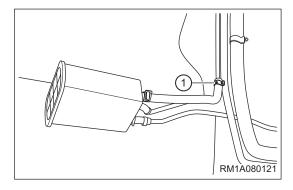
- · Be sure to wear necessary safety equipment to prevent accidents when repairing.
- Try to prevent body paint surface from being scratched during removal and installation.
- 1. Turn off all electrical equipment and the ignition switch.
- 2. Disconnect the negative battery cable.
- 3. Remove the rear right wheel house protector (See page 49-27).
- 4. Remove the filler tube assembly.
  - a. Open fuel filler door, rotate and open fuel tank cap assembly in direction of arrow as shown in illustration.

# ن سامانه دیجیتال تعمیرکاران خودرو در ایران

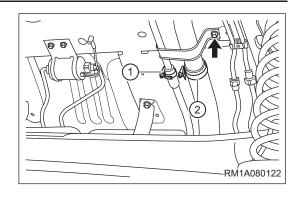


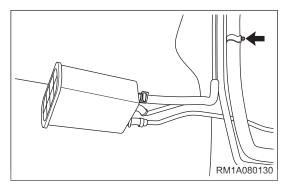
 Loosen elastic clamp (1) and disconnect connection between charcoal canister breather pipe and filler tube assembly.

(Tightening torque: 2.5 ± 0.5 N·m)



- c. Loosen worm clamp (1) and disconnect connection between fuel breather hose and filler tube assembly. (Tightening torque: 2.5 ± 0.5 N·m)
- d. Loosen worm clamp (2) and disconnect connection between fuel filler hose and filler tube assembly. (Tightening torque: 2.5 ± 0.5 N·m)
- e. Remove coupling bolt (arrow) between filler tube assembly and vehicle body. (Tightening torque: 5 ± 1 N·m)
- f. Remove coupling nut (arrow) between filler tube assembly and vehicle body.
   (Tightening torque: 5 ± 1 N·m)



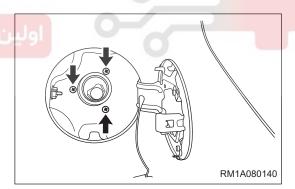


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#### CAUTION

- Cover joints with plastic bags after disconnecting fuel filler hose and fuel breather hose, in order to prevent foreign matter from entering fuel tank and fuel from evaporating or leaking.
  - g. Remove 3 fixing screws (arrow) from filler tube assembly.

    (Tightening torque: 7 ± 1.5 N·m)



h. Remove the filler tube assembly.

#### Installation

Installation is in the reverse order of removal.

### **Fuel Tank**

#### Removal

### **⚠** WARNING

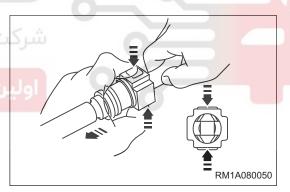
- Before operating fuel supply system, please touch vehicle body to discharge static electricity; failure to do so will cause a fire, even result in an explosion.
- When operating fuel supply system, work area should be in good ventilation and keep fire sources or open flames away from work area, in which fire extinguisher should be equipped.
- After performing procedures for fuel system pressure release, there still remains some pressure in fuel line. When disconnecting fuel line, cover the joint with a piece of cloth or equivalent to prevent fuel from spraying out.
- If fuel leakage occurs when operating fuel supply system, please handle the leaked fuel in time.

#### CAUTION

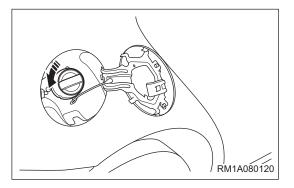
- DO NOT damage disconnected fuel system line or connectors. Cover line joints or connectors with plastic bags or equivalent, preventing foreign matter from entering.
- Be sure to wear necessary safety equipment to prevent accidents when repairing.
- Try to prevent body paint surface from being scratched during removal and installation.

Disconnection way for all fuel pipe coupling joints in following procedures is shown in illustration.

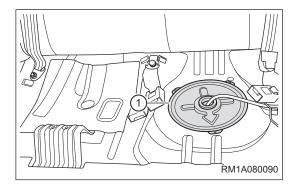
# ن سامانه دیجیتال تعمیرکاران خودرو در ایران



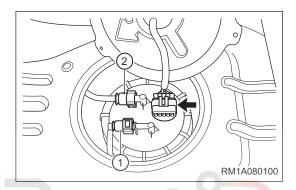
- 1. Release the fuel system pressure (See page 08-10).
- 2. Turn off all electrical equipment and the ignition switch.
- 3. Disconnect the negative battery cable.
- 4. Open fuel filler door, rotate and open fuel tank cap assembly in direction of arrow as shown in illustration, then discharge fuel vapor in fuel tank.



- 5. Disconnect connection between electric fuel pump assembly side pipe and line.
  - a. Remove the rear seat cushion (See page 47-15).
  - b. Using a screwdriver wrapped with protective tape, pry off electric fuel pump assembly protective cap (1).

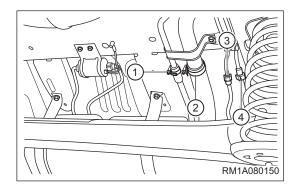


- c. Disconnect the electric fuel pump assembly connector (arrow).
- d. Disconnect coupling joint (1) between electric fuel pump assembly and inlet pipe I assembly.
- e. Disconnect coupling joint (2) between electric fuel pump assembly and inlet and return pipe assembly.



# **◆** CAUTION

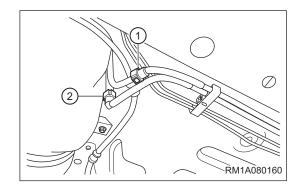
- Before disconnecting joints, remove all dirt and foreign matter from electric fuel pump assembly pressure cap.
- DO NOT forcefully bend or twist delivery pipes.
- 6. Remove the fuel filter assembly (See page 08-13).
- 7. Remove the fuel tank.
  - a. Loosen worm clamp (1) and disconnect connection between fuel breather hose and filler tube assembly. (Tightening torque: 2.5 ± 0.5 N·m)
  - b. Loosen worm clamp (2) and disconnect connection between fuel filler hose and filler tube assembly.
     (Tightening torque: 2.5 ± 0.5 N·m)
  - c. Disconnect coupling joint (3) between fuel vapor line I and fuel vapor line II.
  - d. Disconnect coupling joint (4) between fuel vapor line III and fuel vapor line IV.



#### CAUTION

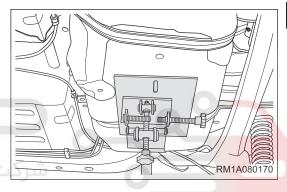
• Cover joints with plastic bags after disconnecting fuel filler hose and fuel breather hose, in order to prevent foreign matter from entering fuel tank and fuel from evaporating or leaking.

- e. Disconnect coupling joint (1) between fuel vapor line IV and fuel vapor line V.
- f. Disconnect coupling joint (2) between inlet and return pipe assembly and inlet pipe II assembly.



#### CAUTION

- Before disconnecting joints, remove any dirt and foreign matter from retainer.
- · DO NOT forcefully bend or twist delivery pipes.
  - g. Support fuel tank with a transmission carrier.

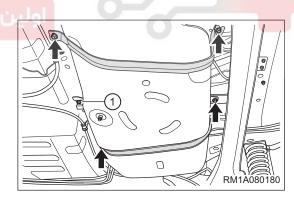




h. Remove the fuel tank heat insulator (See page 11-14).

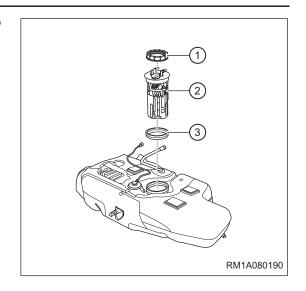
i. Remove fuel tank fixing bolt (1), and remove 4 fixing bolts (arrow) from fuel tank fixing strap, then remove fuel tank fixing strap.

(Tightening torque: 23 ± 2 N·m)



j. Slowly lower transmission carrier to remove fuel tank.

8. Remove fuel pump pressure cap (1), electric fuel pump assembly (2) and fuel tank seal ring (3) from fuel tank.



O8 CAUTION

• DO NOT damage float when removing electric fuel pump assembly.



شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



### **Fuel Tank Accessories Description**

1. Fuel Vapor Valve

Function of fuel vapor valve:

When fuel vapor is produced in fuel tank, fuel vapor will enter charcoal canister through fuel vapor hose (2) by fuel vapor valve (1). When vehicle body bumps or overturns, fuel vapor valve will automatically lock to prevent fuel overflow.

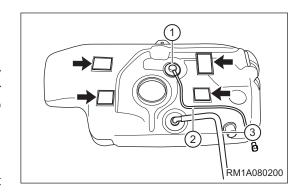
2. Fuel Breather Pipe

Function of fuel breather pipe:

When filling fuel tank through fuel filler, fuel vapor will get out of fuel tank through fuel breather pipe (3).

3. Fuel Tank Cushion

Pay attention to installation positions of fuel tank cushions (arrow). Incorrect installation will damage the fuel tank or fuel lines due to friction between fuel tank and vehicle body.



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#### Installation

Installation is in the reverse order of removal.

#### **©** CAUTION

- Return fuel lines and vent line on fuel tank to their original positions, or the fuel lines will be damaged due
  to friction generated by vehicle body shock, causing fuel leak.
- Before connecting hose, check if there is any damage or foreign matter on 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 fuel pipe joint clip, check that fuel pipe joint cannot be pulled out. If clip is damaged, replace it with a new one.
- Turn ignition switch to ON (without starting engine) to apply fuel pressure to fuel supply system, and then
  check connections for leakage.

# **Fuel Rail Injector Assembly**

#### Removal

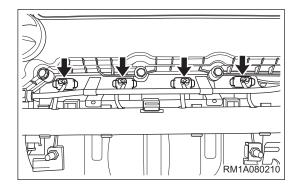
#### **⚠** WARNING

- Before operating fuel supply system, please touch vehicle body to discharge static electricity; failure to do so will cause a fire, even result in an explosion.
- · When operating fuel supply system, work area should be in good ventilation and keep fire sources or open flames away from work area, in which fire extinguisher should be equipped.
- After performing procedures for fuel system pressure release, there still remains some pressure in fuel line. When disconnecting fuel line, cover the joint with a piece of cloth or equivalent to prevent fuel from spraying out.
- If fuel leakage occurs when operating fuel supply system, please handle the leaked fuel in time.

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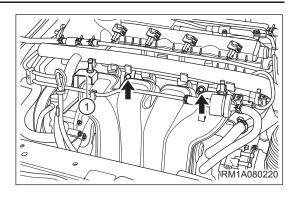
### CAUTION

- Be sure to wear necessary safety equipment to prevent accidents when repairing.
- Try to prevent body paint surface from being scratched during removal and installation.
- DO NOT damage disconnected fuel system line or connectors. Cover line joints or connectors with plastic bags or equivalent, preventing foreign matter from entering.
- Injector is a part of high accuracy, featuring good anti-clogging, anti-pollution and atomization, so be careful not to damage the injector during removal of fuel rail.
- 1. Release the fuel supply system pressure (See page 08-10).
- 2. Turn off all electrical equipment and the ignition switch.
- 3. Disconnect the negative battery cable.
- 4. Remove the engine trim cover.
- 5. Remove the fuel rail injector assembly.
  - a. Disconnect 4 connectors (arrow) from injectors separately.

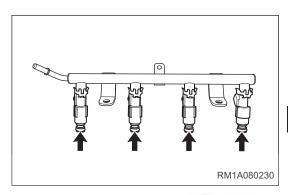


- b. Move away engine wire harness clips from fuel rail.
- c. Disconnect coupling joint (1) between inlet pipe III and fuel rail.
- d. Loosen and remove 2 fixing bolts (arrow) from fuel rail.

(Tightening torque: 23 ± 2 N·m)



- e. Remove fuel rail and fuel injectors.
- 6. Remove injector clips and remove injectors (arrow) from fuel rail.

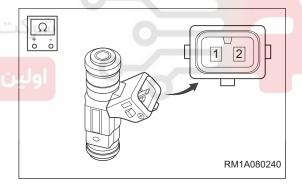


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### Inspection

- 1. Disconnect the injector connector.
- 2. Measure resistance between 2 terminals (injector side) of injector with a digital multimeter.

Multimeter Connection	Measurement Temperature	Specification (Ω)
Terminal 1 - Terminal 2	20°C	12



#### Installation

Installation is in the reverse order of removal.

### **CAUTION**

- Install a new O-ring to injector.
- Before installing injector, apply clean grease or oil to O-ring sealing surface for easy installation, preventing damage to the O-ring.
- When applying grease or oil, do not contaminate injector internal and injection holes.
- It is not allowed to use any tool (hammer, etc.) to strike injector during installation.



