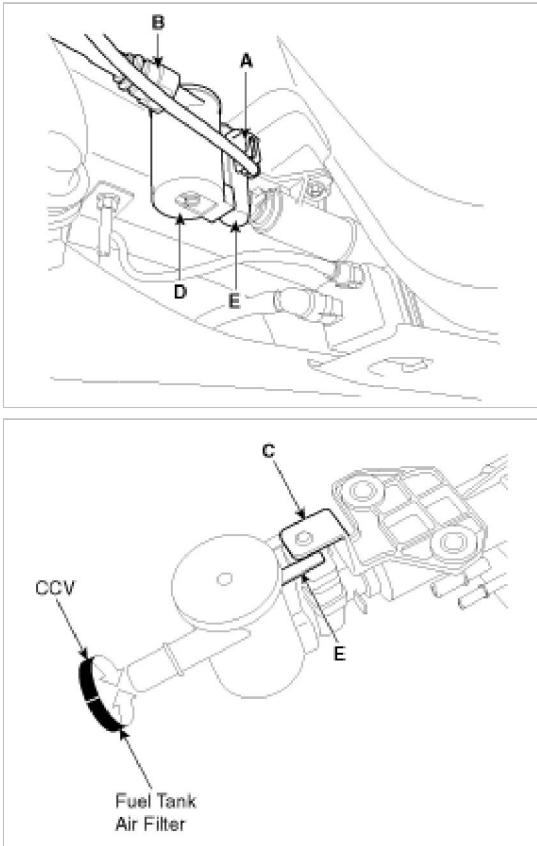


in the figure.



Installation

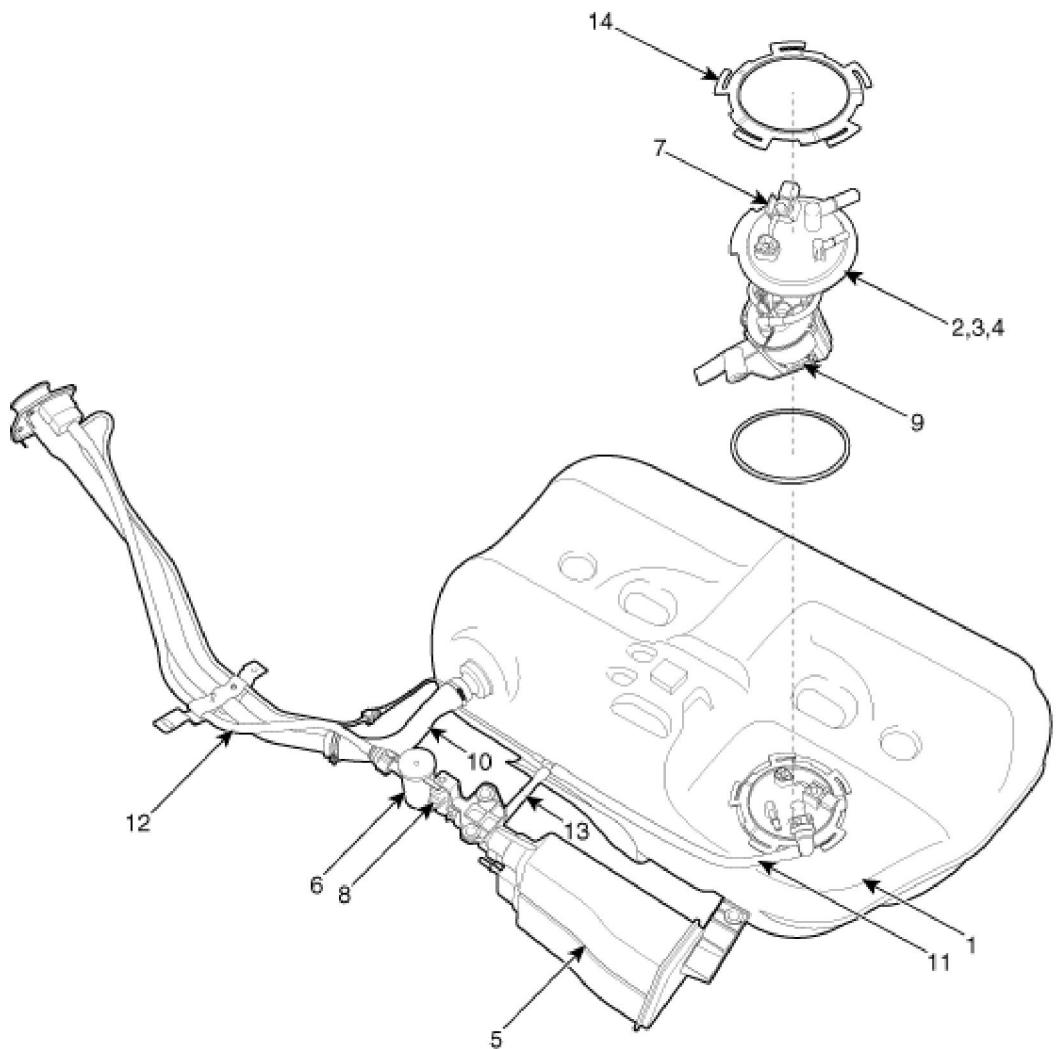
CAUTION

- Install the component with the specified torques.
- Note that internal damage may occur when the component is dropped. If the component has been dropped, inspect before installing.

1. Installation is reverse of removal.

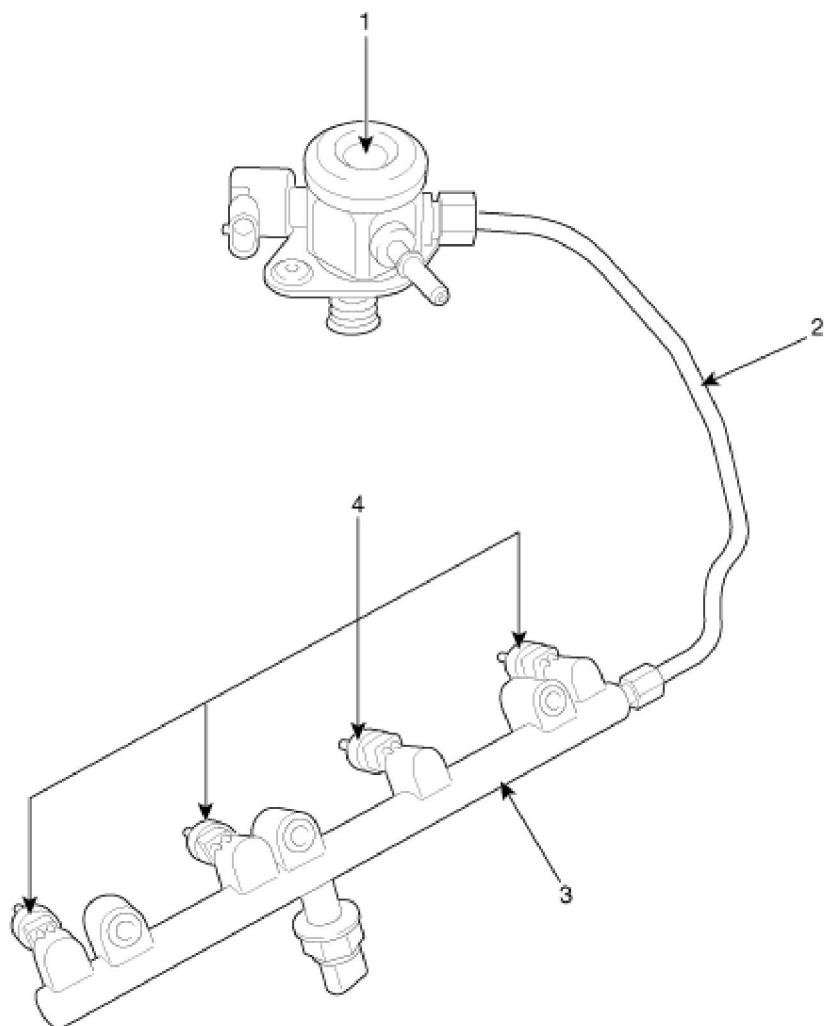
Fuel System > Fuel Delivery System > Components and Components Location

Components Location



1. Fuel Tank	7. Fuel Tank Pressure Sensor (FTPS)
2. Fuel Pump	8. Canister Close Valve (CCV)
3. Fuel Filter	9. Fuel Level Sensor (FLS)
4. Fuel Pressure Regulator	10. Fuel Filler Hose
5. Canister	11. Leveling Tube
6. Fuel Tank Air Filter	12. Ventilation Tube
	13. Vapor Tube
	14. Fuel Pump Locking Ring

[High Pressure Fuel Line]



1. High Pressure Fuel Pump
2. High Pressure Fuel Pipe

3. Delivery Pipe
4. Injector

WARNING

In case of removing the high pressure fuel pump, high pressure fuel pipe, delivery pipe, and injector, there may be injury caused by leakage of the high pressure fuel. So don't do any repair work right after engine stops.

Fuel System > Fuel Delivery System > Repair procedures

Fuel Pressure Test

1. Release the residual pressure in fuel line (Refer to “Release Residual Pressure in Fuel Line” in this group).

CAUTION

When removing the fuel pump relay, a Diagnostic Trouble Code (DTC) may occur. Delete the code with the GDS after completion of “Release Residual Pressure in Fuel Line” work.

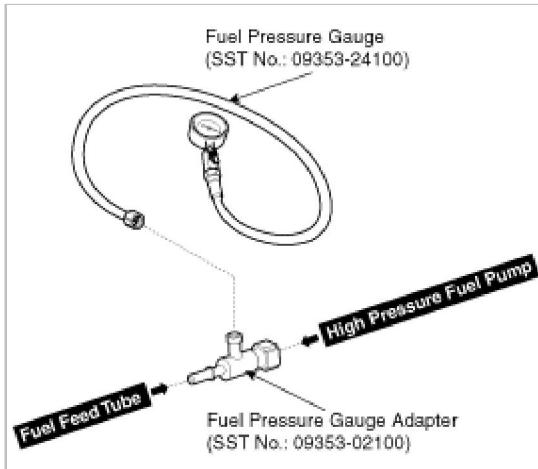
2. Install the Special Service Tool (SST).

- (1) Disconnect the fuel feed tube from the high pressure fuel pump.

CAUTION

There may be some residual pressure even after “Release Residual Pressure in Fuel Line” work, so cover the hose connection with a shop towel to prevent residual fuel from spilling out before disconnecting any fuel connection.

- (2) Install the special service tool for measuring the fuel pressure in between the fuel feed tube and the high pressure fuel pump (Refer to the figure below).



3. Inspect fuel leakage on connections among the fuel feed tube, the high pressure fuel pump, and the SST components with IG ON.

4. Measure Fuel Pressure.

- (1) Start the engine and measure the fuel pressure at idle.

Fuel Pressure:

495 ~ 505 kPa (5.1 ~ 5.2 kgf/cm², 71.8 ~ 73.2 psi)

NOTE

If the fuel pressure differs from the standard value, repair or replace the related part (Refer to the table below).

Fuel Pressure	Cause	Related Part
Too Low	Fuel filter clogged	Fuel Filter
	Fuel leakage	Fuel Pressure Regulator
Too High	Fuel pressure regulator stuck	Fuel Pressure Regulator

- (2) Stop the engine, and then check for the change in the fuel pressure gauge reading.

Standard Value: The gauge reading should hold for about 5 minutes after the engine stops

NOTE

If the gauge reading should not be held, repair or replace the related part (Refer to the table below).

Fuel Pressure	Cause	Related
---------------	-------	---------

(After Engine Stops)		Part
Fuel Pressure Drops Slowly	Leakage on injector	Injector
Fuel Pressure Drops Immediately	Check valve of fuel pump stuck open	Fuel Pump

(3) Turn the ignition switch OFF.

5. Release the residual pressure in fuel line (Refer to “Release Residual Pressure in Fuel Line”).

CAUTION

When removing the fuel pump relay, a Diagnostic Trouble Code (DTC) may occur. Delete the code with the GDS after completion of “Release Residual Pressure in Fuel Line” work.

6. Test End

(1) Remove the Special Service Tool (SST) from the fuel feed tube and the high pressure fuel pump.

(2) Connect the fuel feed tube and the high pressure fuel pump.

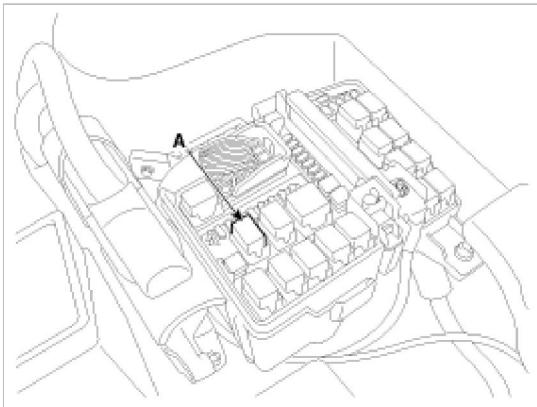
Release Residual Pressure in Fuel Line

CAUTION

There may be some residual pressure even after “Release Residual Pressure in Fuel Line” work, so cover the hose connection with a shop towel to prevent residual fuel from spilling out before disconnecting any fuel connection.

1. Turn the ignition switch OFF and disconnect the battery (-) cable.

2. Remove the fuel pump relay (A).



CAUTION

When removing the fuel pump relay, a Diagnostic Trouble Code (DTC) may occur. Delete the code with the GDS after completion of “Release Residual Pressure in Fuel Line” work.

3. Connect the battery (-) cable.

4. Start the engine and let idle, and then turn the ignition switch OFF after the engine has stopped on its own.

5. Disconnect the battery (-) cable, and then install the fuel pump relay (A).

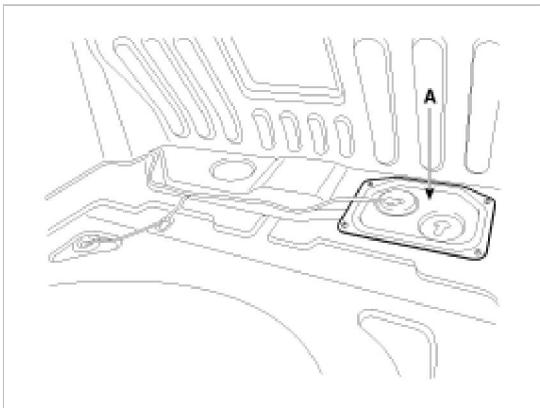
6. Connect the battery (-) cable.

7. Delete the Diagnostic Trouble Code (DTC) related the fuel pump relay with the GDS.

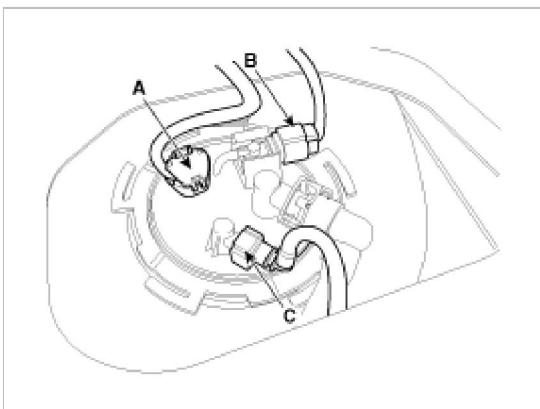
Fuel System > Fuel Delivery System > Fuel Tank > Repair procedures

Removal

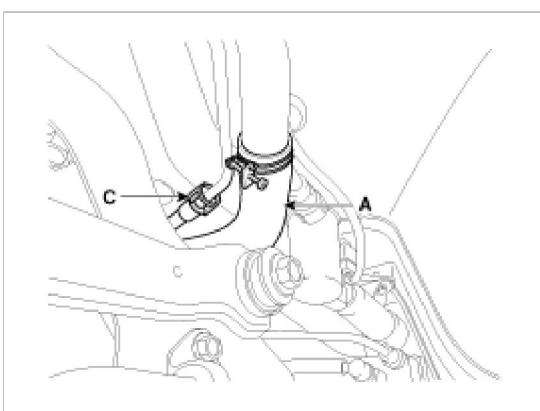
1. Release the residual pressure in fuel line (Refer to “Release Residual Pressure in Fuel Line” in this group).
2. Remove the fuel pump service cover (A) in the trunk.

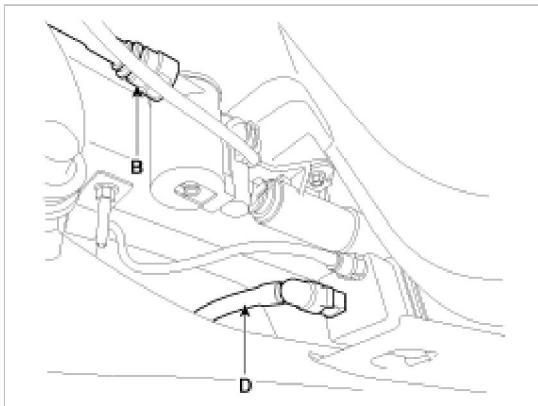


3. Disconnect the fuel pump connector (A) and the fuel tank pressure sensor connector (B).
4. Disconnect the fuel feed tube quick connector (C).

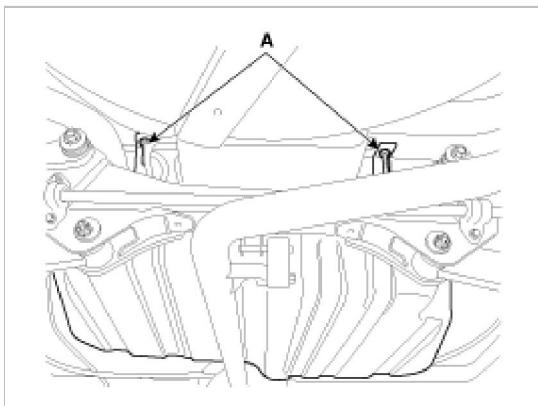


5. Lift the vehicle and support the fuel tank with a jack.
6. Remove the center muffler assembly (Refer to “Intake And Exhaust System” in EM group).
7. Disconnect the fuel filler hose (A), the ventilation tube quick-connector (B), and the vapor tube quick-connector (C,D).





8. Remove the fuel tank from the vehicle after removing the fuel tank band installation nut (A).



Installation

1. Installation is reverse of removal.

Fuel tank band installation nut:

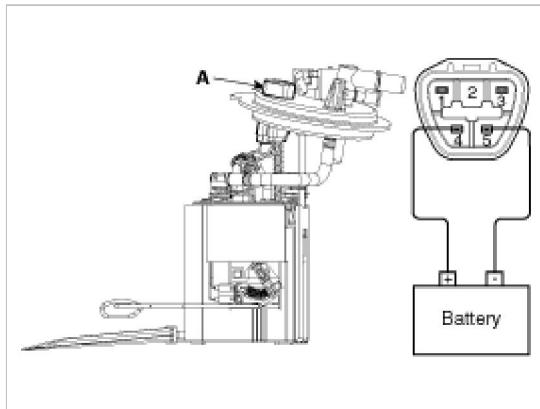
39.2 ~ 54.0 N.m (4.0 ~ 5.5 kgf.m, 28.9 ~ 39.8 lb-ft)

Fuel System > Fuel Delivery System > Fuel Pump > Repair procedures

Inspection

[Fuel pump]

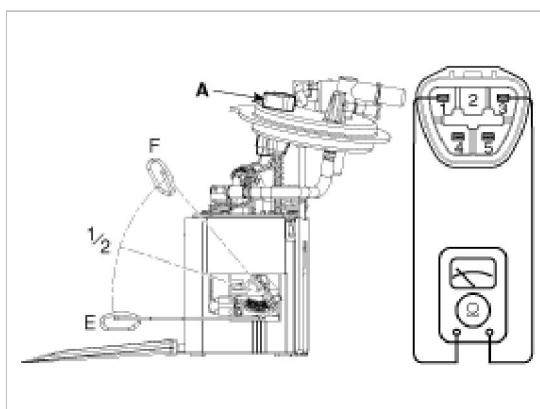
1. Turn the ignition switch OFF, and then remove battery (-) cable.
2. Remove the fuel pump assembly.
3. Check motor (A) operation by connecting power (4) and ground (5).



Pin No.	Description
1	Fuel sender signal
2	-
3	Fuel sender ground
4	Fuel pump motor (+)
5	Fuel pump motor ground

[Fuel sender]

1. Turn the ignition switch OFF, and then remove battery (-) cable.
2. Remove the fuel pump assembly.
3. Using an ohmmeter, measure the resistance between terminals 1 and 3 of sender connector (A) at each float level.



Pin No.	Description
1	Fuel sender signal
2	-
3	Fuel sender ground
4	Fuel pump motor (+)
5	Fuel pump motor ground

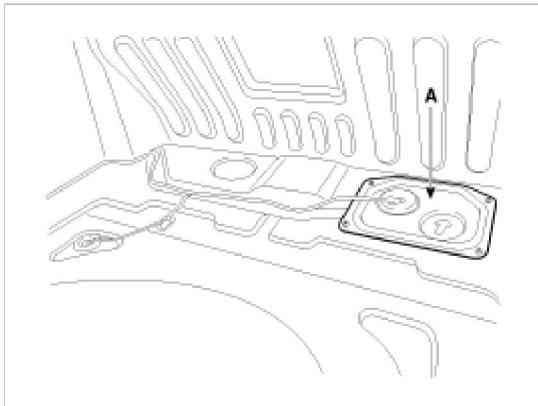
4. Also check that the resistance changes smoothly when the float is moved from "E" to "F".

Position	Resistance(Ω)	Capacity (l)
E	198 ~ 205	5
Warning lamp	168 ~ 172	8.5

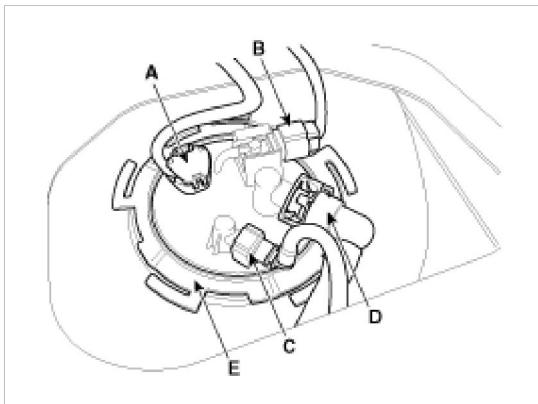
1/2	71.7 ~ 73.7	36
Sender (F)	7~9	68

Removal

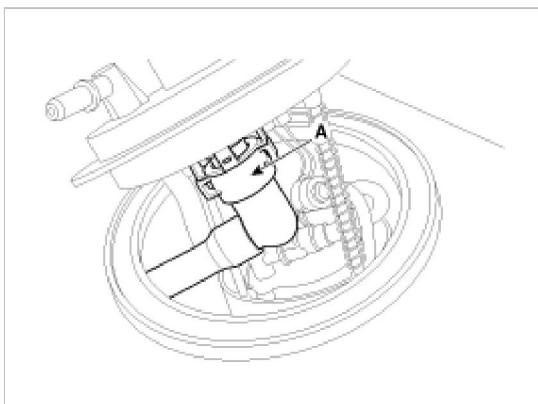
1. Release the residual pressure in fuel line (Refer to “Release Residual Pressure in Fuel Line” in this group).
2. Remove the fuel pump service cover (A) in the trunk.

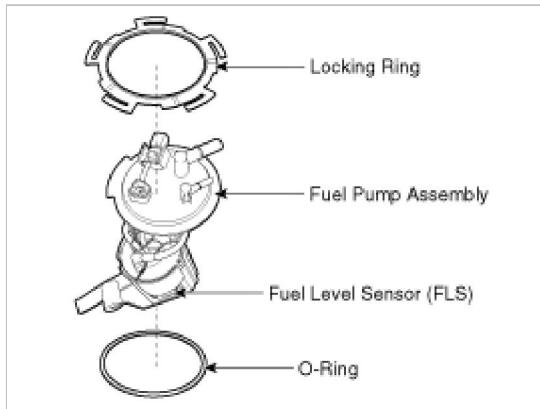


3. Disconnect the fuel pump connector (A) and the fuel tank pressure sensor connector (B).
4. Disconnect the fuel feed tube quick connector (C) and the vapor tube quick-connector (D).
5. Remove locking ring (E) by use the special service tool [SST No. : 09310-2S200].



6. Disconnect the vapor tube quick-connector (A) at the fuel pump, and then remove the fuel pump from the fuel tank.





Installation

1. Installation is reverse of removal.

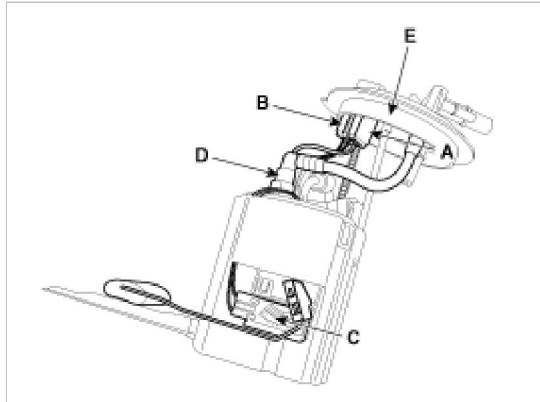
CAUTION

Be careful of fuel pump direction (Refer to the groove in the fuel tank).

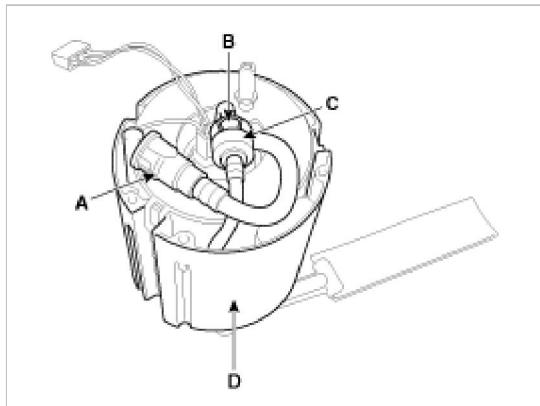
Fuel System > Fuel Delivery System > Fuel Filter > Repair procedures

Replacement

1. Remove the fuel pump (Refer to “Fuel Pump” in this group).
2. Disconnect the electric pump wiring connector (A) and the fuel sender connector (B), and then remove the fuel sender (C).
3. Disconnect the fuel tube quick-connector (D).
4. Remove the head assembly (E) after releasing the fixing hooks.

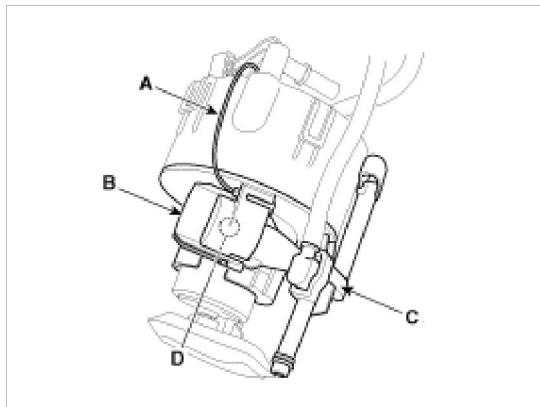


5. Disconnect the fuel feed tube quick-connector (A).
6. Remove the fixing clip (B), and then disconnect the fuel tube (C).
7. Remove the reservoir-cup (D) after releasing the fixing hooks.



8. Disconnect the ground cable (A).

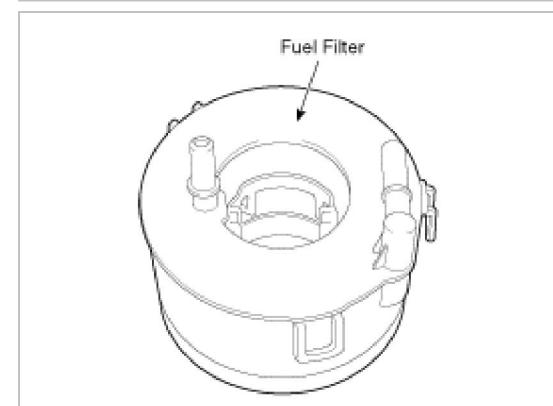
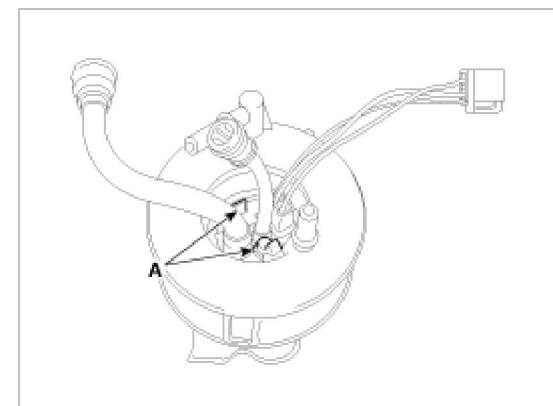
9. Remove the cap (B), and then remove the assist pump (C) and the fuel pressure regulator (D).

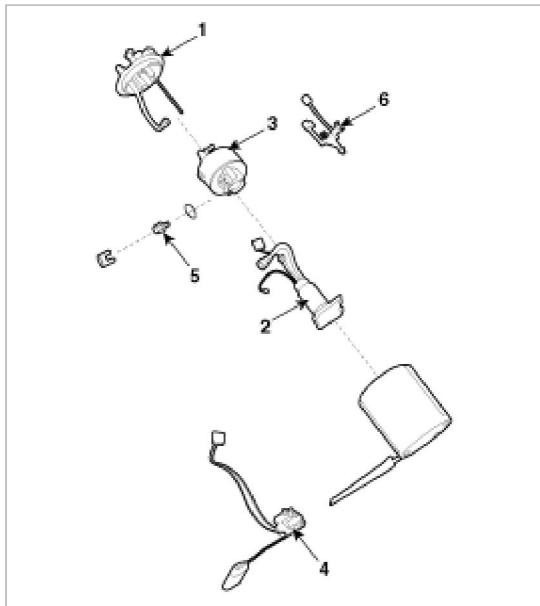


CAUTION

Be careful of O-ring.

10. Separate the electric pump motor from the fuel filter after releasing the fixing hooks (A).



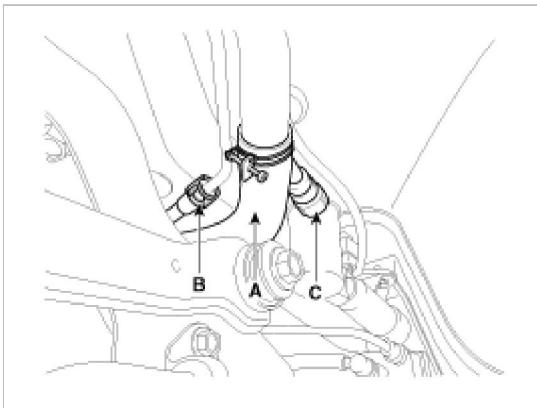


1. Head Assembly
2. Electric Pump Motor
3. Fuel Filter
4. Fuel Sender
5. Fuel Pressure Regulator
6. Assist Pump

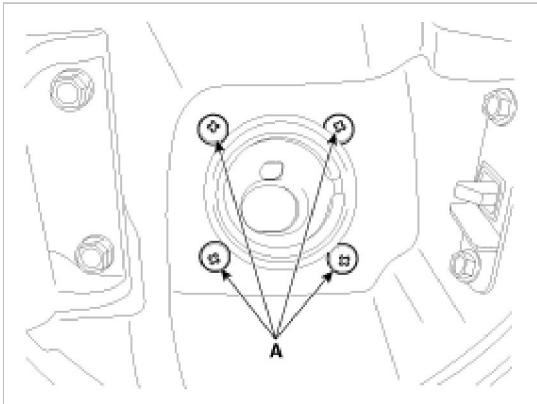
Fuel System > Fuel Delivery System > Filler-Neck Assembly > Repair procedures

Removal

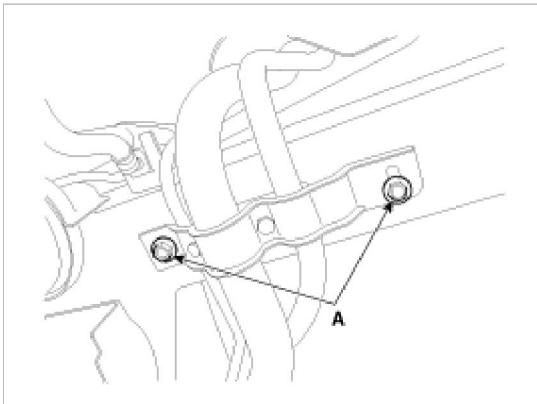
1. Disconnect the fuel filler hose (A), the vapor tube quick-connector (B), and the ventilation tube quick-connector (C).



2. Remove the rear-LH wheel, tire, and the inner wheel house.
3. Open the fuel filler door and unfasten the filler-neck assembly mounting screw (A).



4. Remove the filler-neck assembly from the vehicle after removing the bracket mounting bolts (A).



Installation

1. Installation is reverse of removal.

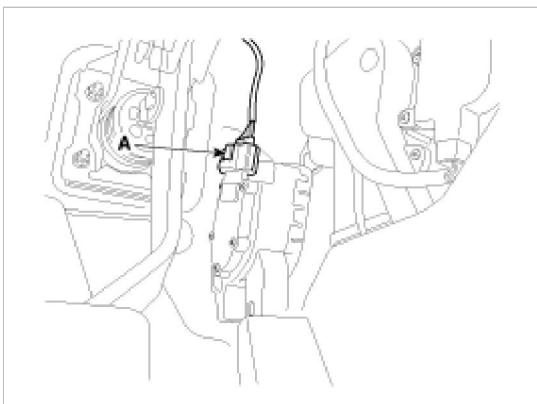
Filler-neck assembly bracket installation bolt :

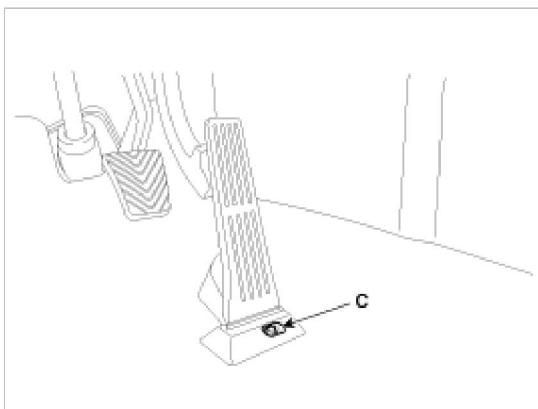
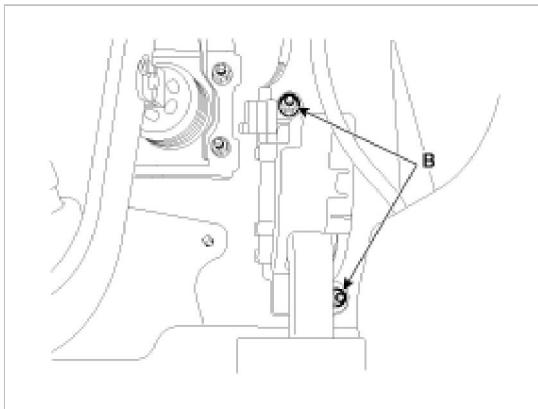
3.9 ~ 5.9 N.m (0.4 ~ 0.6 kgf.m, 2.9 ~ 4.3 lb-ft)

Fuel System > Fuel Delivery System > Accelerator Pedal > Repair procedures

Removal

1. Turn the ignition switch OFF and disconnect the negative (-) battery cable.
2. Disconnect the accelerator position sensor connector (A).
3. Remove the installation nuts (B) and bolt (C), and then remove the accelerator pedal module.





Installation

1. Installation is reverse of removal.

Accelerator pedal module installation nut:

9.8 ~ 14.7 N.m (1.0 ~ 1.5 kgf.m, 7.2 ~ 10.8 lb-ft)

Accelerator pedal module installation bolt:

8.8 ~ 13.7 N.m (0.9 ~ 1.4 kgf.m, 6.5 ~ 10.1 lb-ft)

Fuel System > Fuel Delivery System > Delivery Pipe > Repair procedures

Removal

WARNING

In case of removing the high pressure fuel pump, high pressure fuel pipe, delivery pipe, and injector, there may be injury caused by leakage of the high pressure fuel. So don't do any repair work right after engine stops.

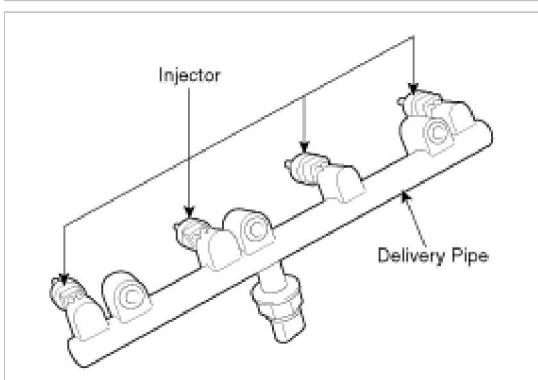
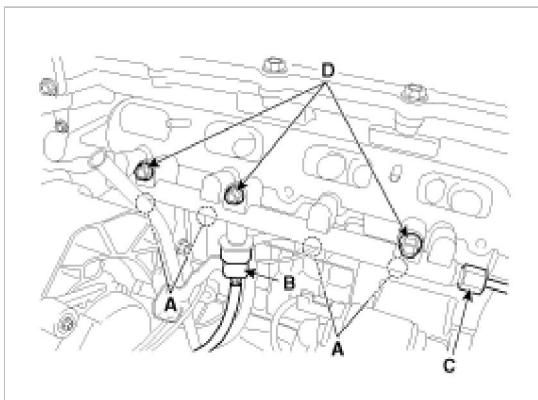
1. Turn the ignition switch OFF and disconnect the battery negative (-) cable.
2. Release the residual pressure in fuel line (Refer to "Release Residual Pressure in Fuel Line" in this group).

CAUTION

When removing the fuel pump relay, a Diagnostic Trouble Code (DTC) may occur. Delete the code with the GDS after completion of "Release Residual Pressure in Fuel Line" work.

3. Remove the intake manifold (Refer to "Intake And Exhaust System" in EM group).
4. Disconnect the injector connectors (A) and the rail pressure sensor connector (B).

5. Remove the high pressure fuel pipe (C).
6. Remove the installation bolt (D), and then remove the delivery pipe and injector assembly from the engine.



Installation

CAUTION

- Do not use already used injector fixing clip again.

CAUTION

- Install the component with the specified torques.
- Note that internal damage may occur when the component is dropped. In this case, use it after inspecting.

CAUTION

- Apply engine oil to the injector O-ring.
- Do not use already used injector O-ring again.

CAUTION

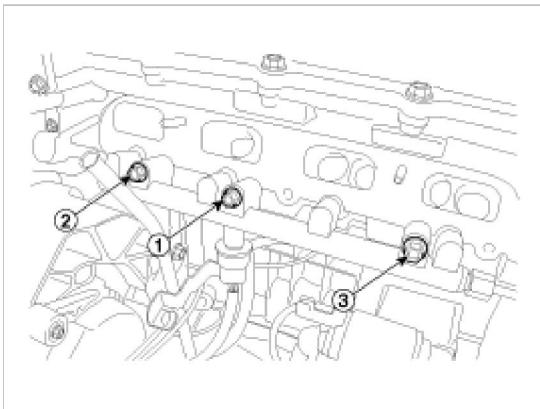
- Do not use already used bolt again.

CAUTION

- When insert the injector, be careful not to damage the injector tip.

CAUTION

- When tightening the delivery pipe installation bolts, tighten them in accordance with the order (① → ② → ③) after tightening with hand-screwed torque.



1. Installation is reverse of removal.

Delivery pipe installation bolt:

18.6 ~ 23.5 N.m (1.9 ~ 2.4 kgf.m, 13.7 ~ 17.4 lb-ft)

High pressure fuel pipe installation nut:

26.5 ~ 32.4 N.m (2.7 ~ 3.3 kgf.m, 19.5 ~ 23.9 lb-ft)

Fuel System > Fuel Delivery System > High Pressure Fuel Pump > Repair procedures

Removal

WARNING

In case of removing the high pressure fuel pump, high pressure fuel pipe, delivery pipe, and injector, there may be injury caused by leakage of the high pressure fuel. So don't do any repair work right after engine stops.

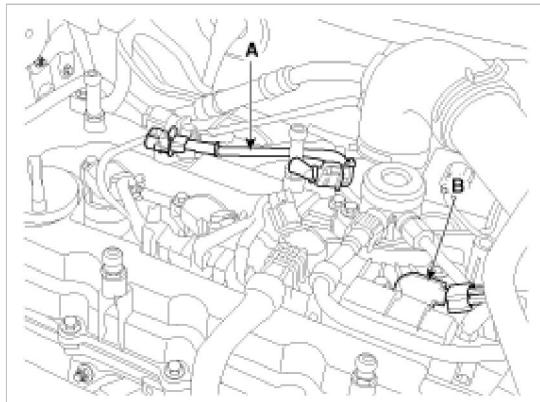
1. Turn the ignition switch OFF and disconnect the battery negative (-) cable.
2. Release the residual pressure in fuel line (Refer to "Release Residual Pressure in Fuel Line" in this group).

CAUTION

When removing the fuel pump relay, a Diagnostic Trouble Code (DTC) may occur.

Delete the code with the GDS after completion of "Release Residual Pressure in Fuel Line" work.

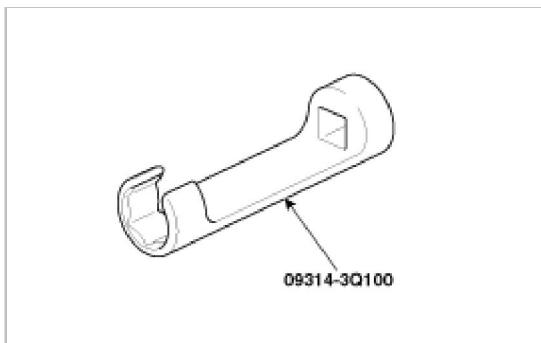
3. Remove the air cleaner and the air intake hose (Refer to "Intake And Exhaust System" in EM group).
4. Disconnect the fuel pressure regulator valve connector (A).
5. Remove the ignition coil (B).



6. Disconnect the fuel feed tube quick-connector (A).

7. Remove the high pressure fuel pipe.

- (1) Remove the installation nut (B) from the high pressure fuel pump with the special service tool [SST No.: 09314-3Q100]



- (2) Remove the installation nut (C) from the delivery pipe with the special service tool [SST No.: 09314-3Q100]

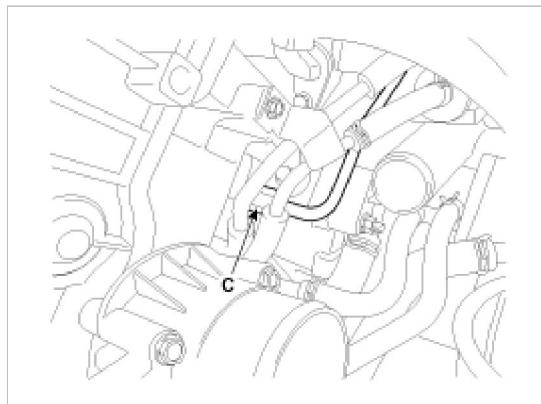
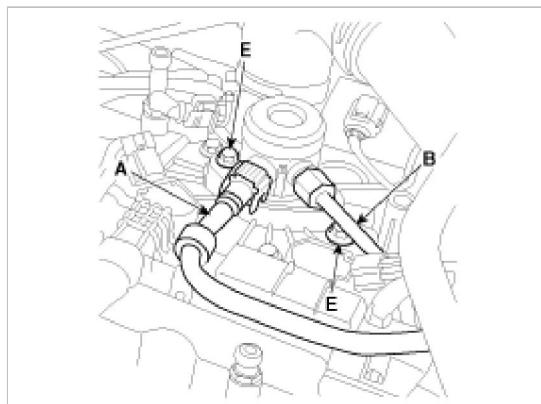
- (3) Remove the purge control solenoid valve (Refer to “Purge Control Solenoid Valve” in this group).

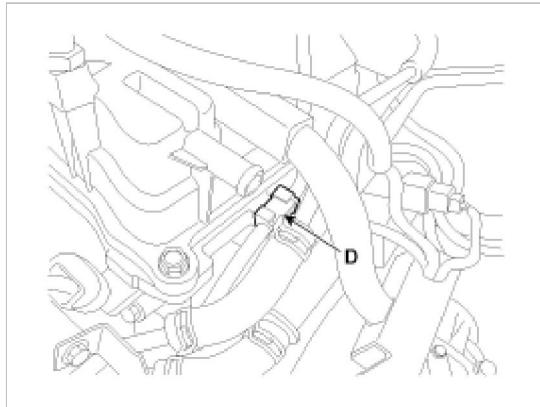
- (4) Remove the function block (D), and then remove the high pressure fuel pipe.

8. Remove the installation bolts (E), and then remove the high pressure fuel pump from the cylinder head assembly.

CAUTION

Unscrew in turn the two bolts in small step (0.5 turns). In case of fully unscrewing one of the two bolts with the other bolt installed, the housing surface of the cylinder head may be broken because of tension of the pump spring.

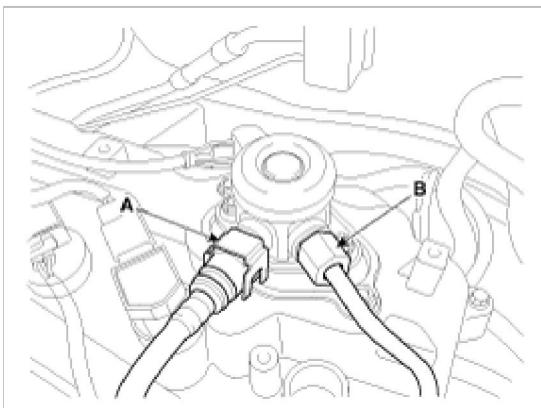




Installation

WARNING

- Be sure to check the low pressure fuel hose quick-connector (A) is completely connected to the high pressure fuel pump until a confirmation 'click' sound is heard.
- Be sure to re-check the low pressure fuel hose is completely connected to the high pressure fuel pump by pulling it after connecting.
- Be sure to install the high pressure fuel pipe (B) with the specified torques.
- Because fuel leak may cause fire, securely Inspect leakage of all fuel line connection parts at engine start condition.



CAUTION

- Before installing the high pressure fuel pump, position the roller tappet in the lowest position by rotating the crankshaft. Otherwise the installation bolts may be broken because of tension of the pump spring.

CAUTION

- Do not reuse the used bolt.

CAUTION

- Do not reuse the used high pressure fuel pipe.

CAUTION

- When tightening the installation bolts of the high pressure fuel pump, tighten in turn the bolts in small step (0.5 turns) after tightening them with hand-screwed torque.

CAUTION

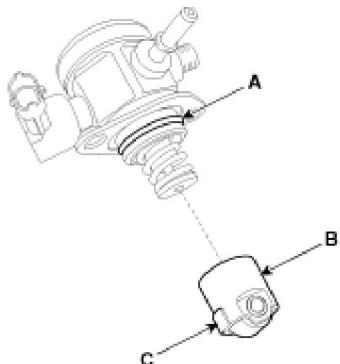
- Install the component with the specified torques.
- First hand-tighten the fasteners fully until they are not fastened any more in order to have them inserted in place and then completely tighten to the specified torque using a torque wrench.
If not tightening the bolts or nuts in a straight line with the mating bolt holes or fittings, it may cause a fuel leak due to broken threads.

CAUTION

- Note that internal damage may occur when the component is dropped. In this case, use it after inspecting.

CAUTION

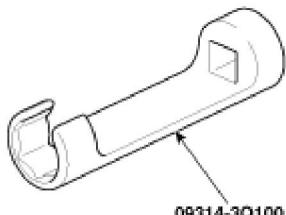
- Apply engine oil to the O-ring (A) of the high pressure fuel pump, the roller tappet (B), and the protrusion (C). Also apply engine oil to the groove on the location where the protrusion (C) is installed.



1. Installation is reverse of removal.

NOTE

Use the special service tool [SST No.: 09314-3Q100] to install the high pressure fuel pipe.



High pressure fuel pump installation bolt: 12.8 ~ 14.7 N.m (1.3 ~ 1.5 kgf.m, 9.4 ~ 10.9 lb-ft)

High pressure fuel pipe installation nut: 26.5 ~ 32.4 N.m (2.7 ~ 3.3 kgf.m, 19.5 ~ 23.9 lb-ft)

High pressure fuel pipe function block installation bolt: 7.8 ~ 11.8 N.m (0.8 ~ 1.2 kgf.m, 5.8 ~ 8.7 lb-ft)