

Description

The GDI injector is similar to a standard injector, but sprays fuel at a much higher pressure directly into the combustion chamber and has a swirl disc to get the fuel swirling as it exits the nozzle. This aids in atomization of the fuel.

The ECM controls both the feed circuits (high side) to feed voltage to the injectors and the ground circuits (low side) to energize the injectors. Also, the feed for 2 injectors comes from the same driver set. As the ignition coils are paired with cylinders (1-4 and 2-3), the injectors are also set up in pairs.

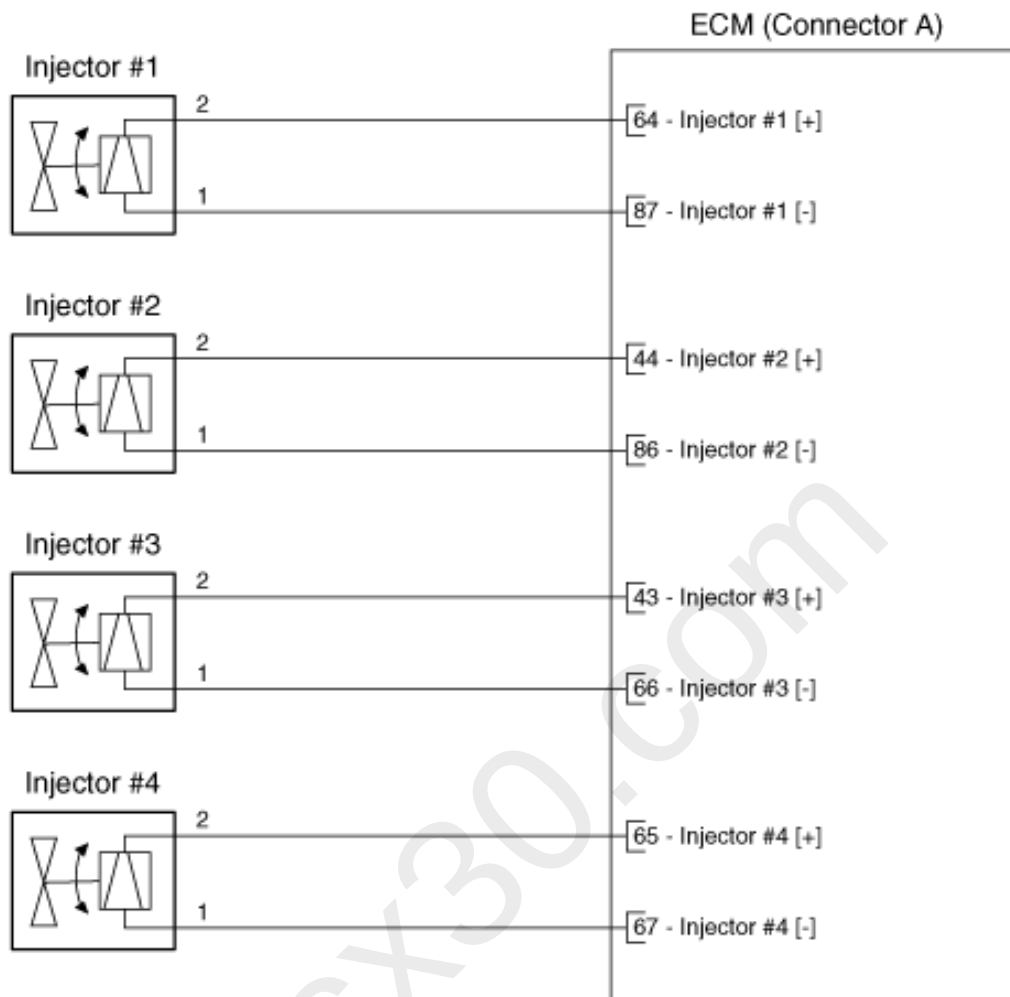


Specification

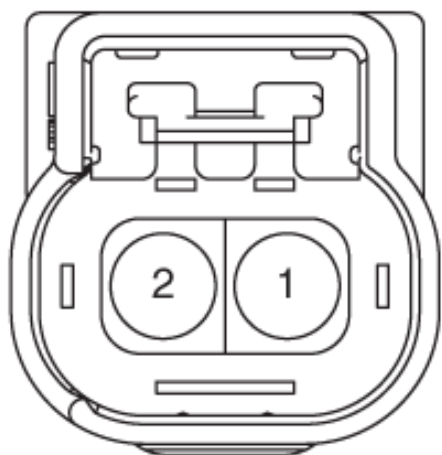
Item	Specification
Coil Resistance (Ω)	1.19 - 1.31 [20°C (68°F)]

mcx30.com

Circuit
Diagram



Harness Connector



mcx30.com

Inspection

1. Turn ignition switch OFF.
2. Disconnect injector connector.
3. Measure resistance between injector terminals 1 and 2.
4. Check that the resistance is within the specification.

Specification : Refer to "Specification"

Removal

1. Turn ignition switch OFF and disconnect the battery negative (-) terminal.
2. Release the residual pressure in fuel line.

(Refer to Fuel Delivery System - "Release Residual Pressure in Fuel Line")

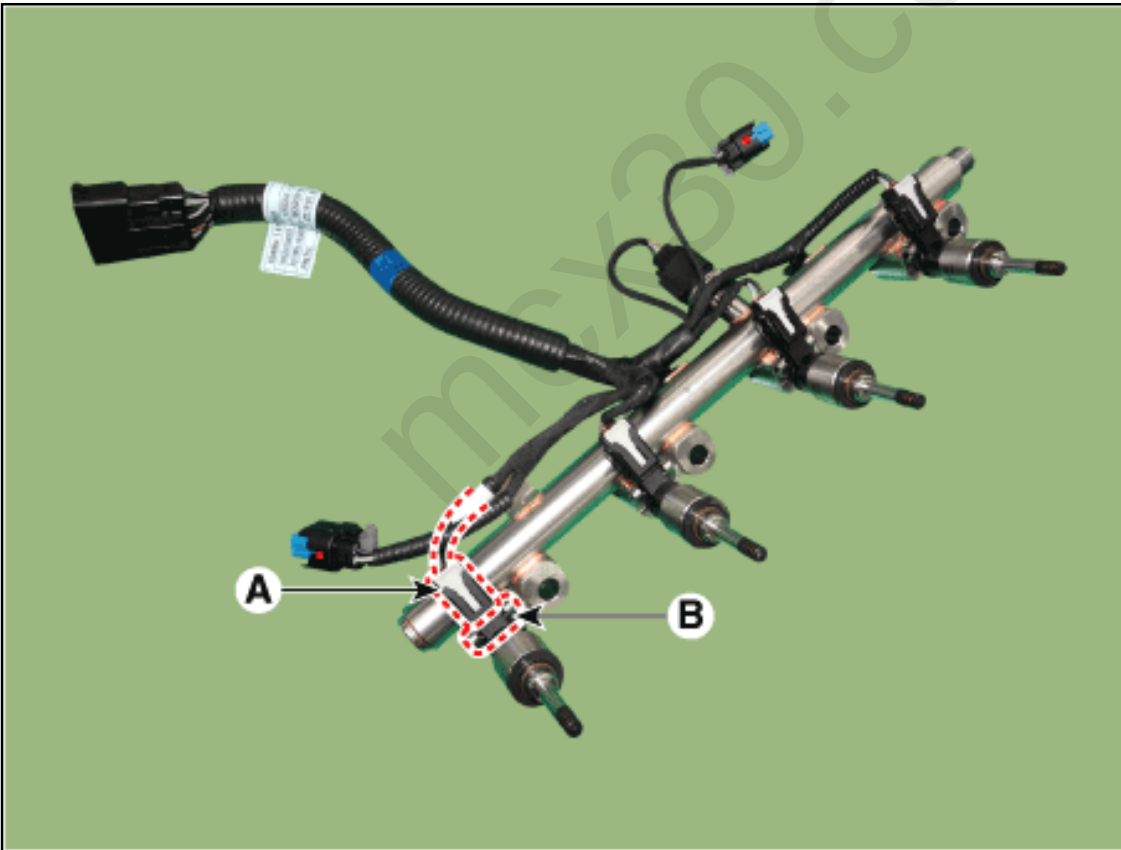


- When removing the fuel pump relay, a Diagnostic Trouble Code (DTC) may occur. Delete the code with the diagnostic tool after completion of "Release Residual Pressure in Fuel Line" work.

3. Remove the delivery pipe & injector assembly.

(Refer to Fuel Delivery System - "Delivery Pipe")

4. Remove the connector (A) and fixing clip (B), and then separate the injector from the delivery pipe.

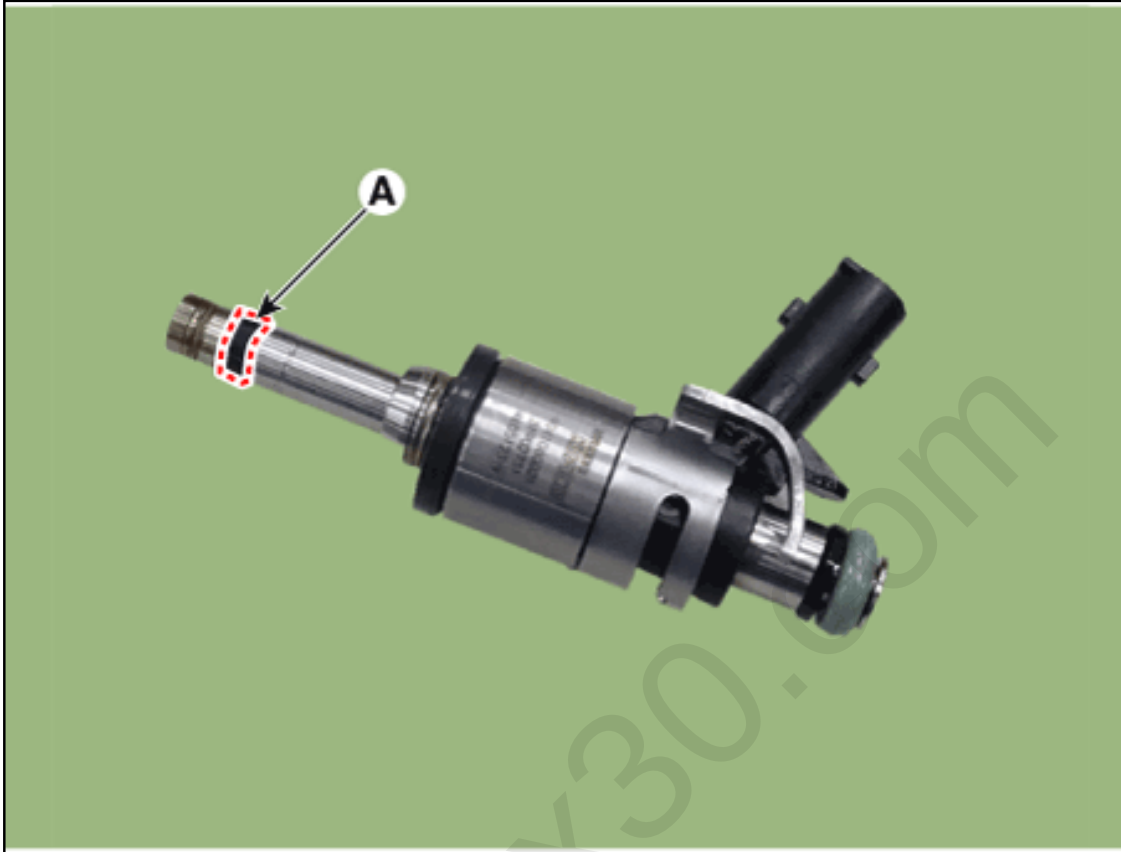


Installation

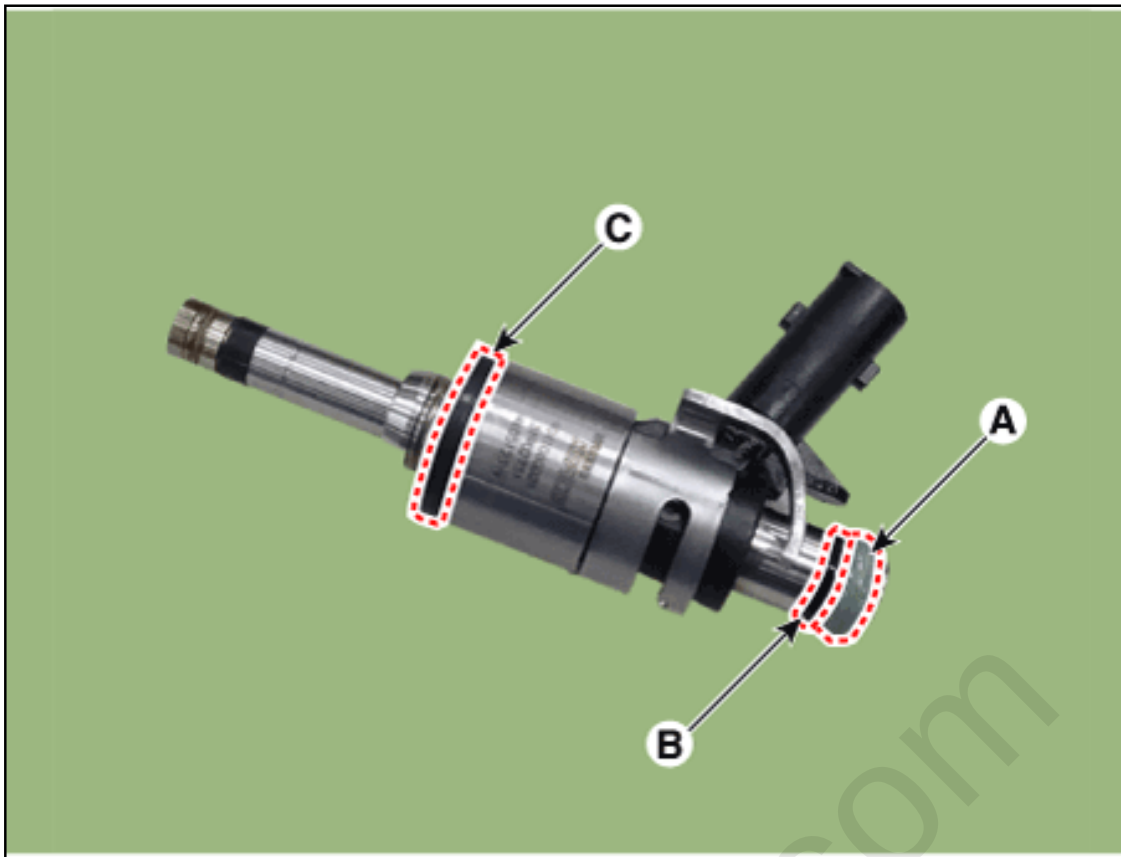
1. Install in the reverse order of removal.



- Do not reuse the injector fixing clip.
- Do not reuse the mounting bolt.
- Do not reuse the combustion seal (A).



- Be careful not to apply oil to the combustion seal.
- Do not reuse the O-ring (A), support disc (B), rubber washer (C).

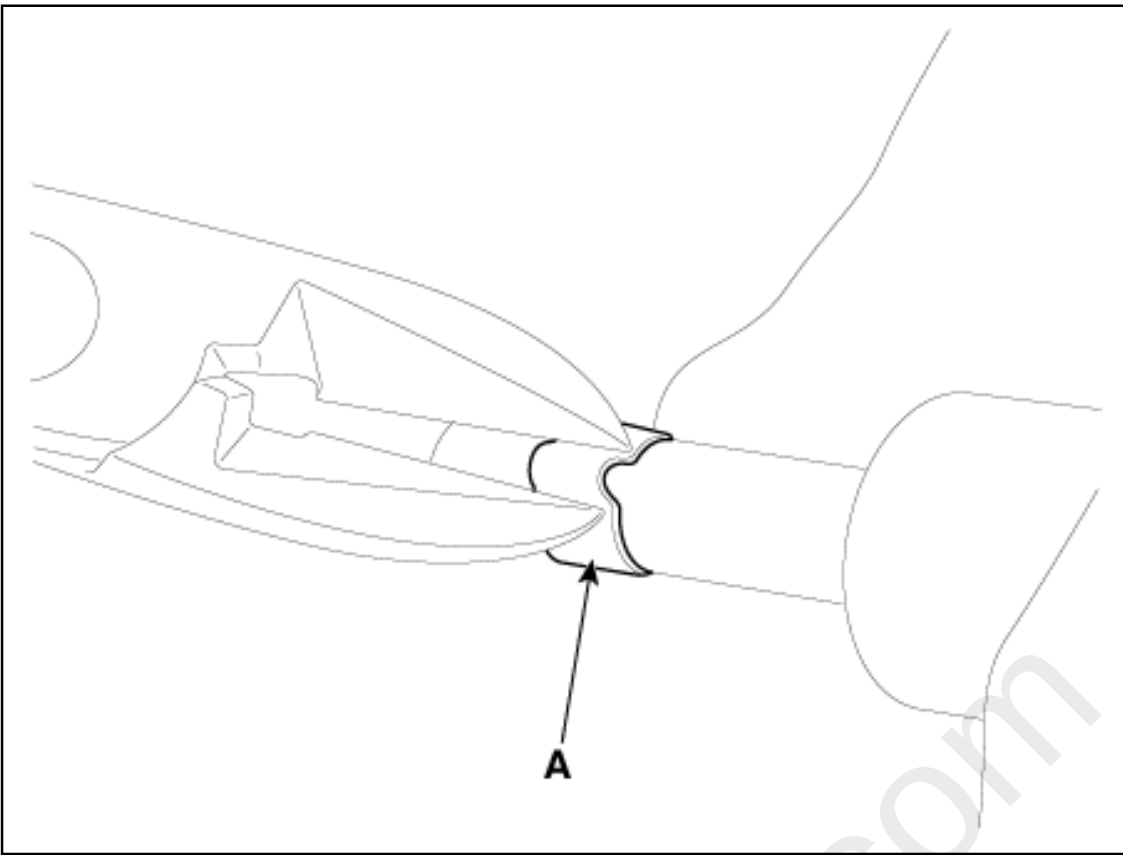


- When replacing the rubber washer, the steel plate part should be faced the cylinder installation part and the rubber plate part should be faced the injector body part.
- Apply engine oil to the injector O-ring.
- When inserting the injector, be careful not to damage the injector tip
- Do not reuse the high fuel pipe.

Replacement

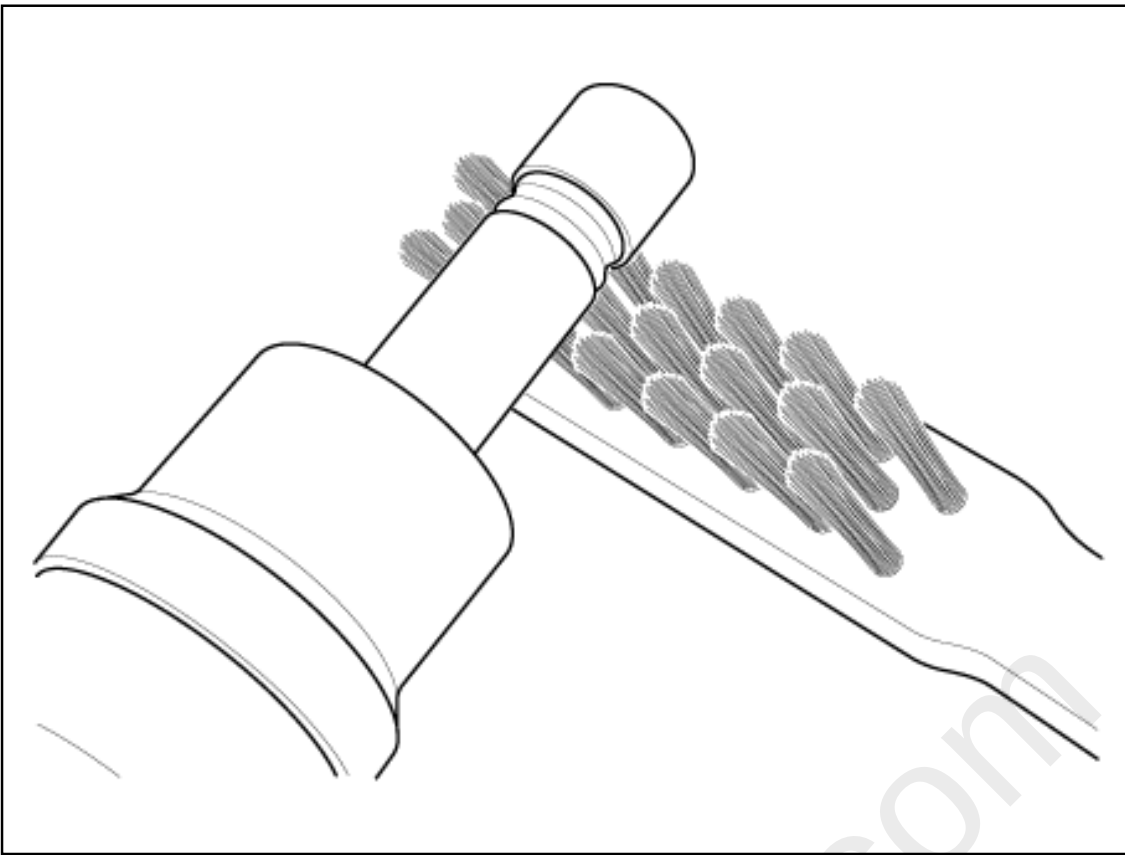
The injector combustion seal should be replaced new one to prevent leakage after removing the injector.

1. Remove the combustion seal (A) with a wire cutter.



- Grip the sealing ring carefully, pull it to form a small loop and then cut it.
- Be careful not to damage the surface of the valve sleeve with the wire cutter.

2. Before the assembly of the sealing ring the groove must be cleaned using a clean cloth.
Any coking of the injector sealing surface must be carefully removed with a brass-wire brush.

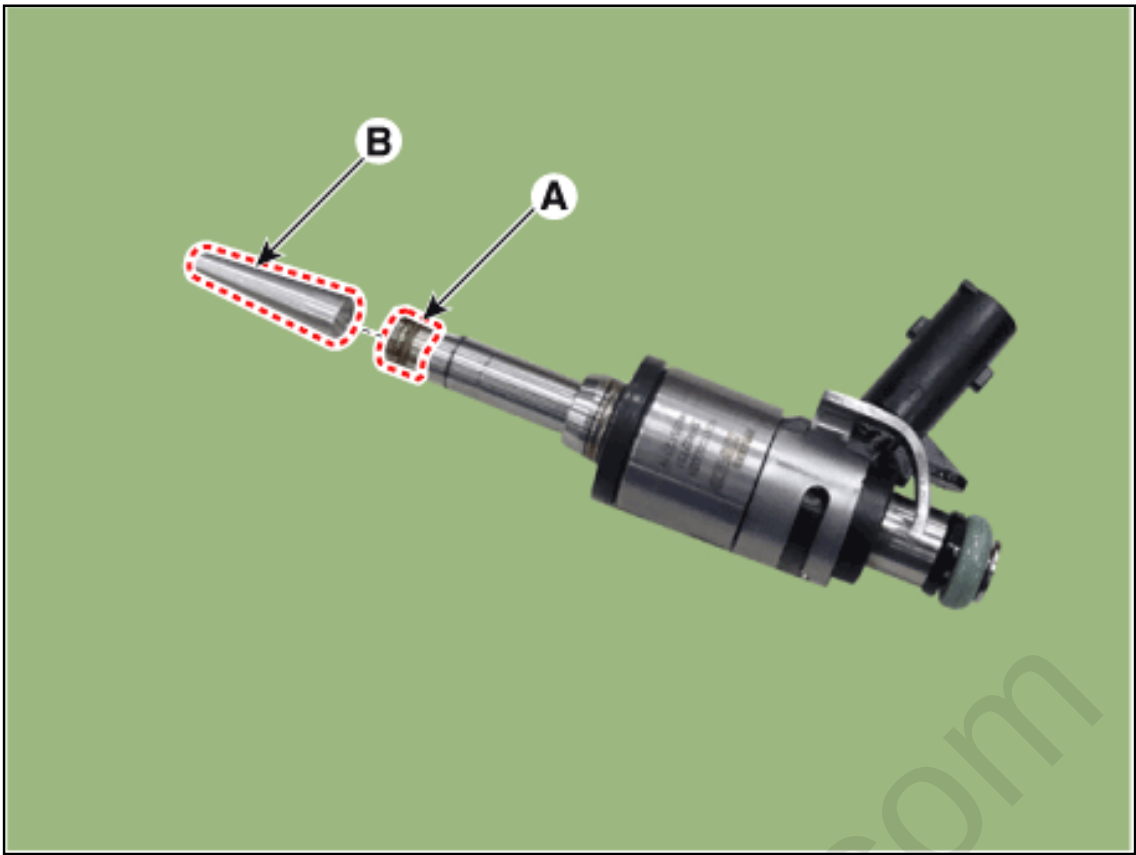


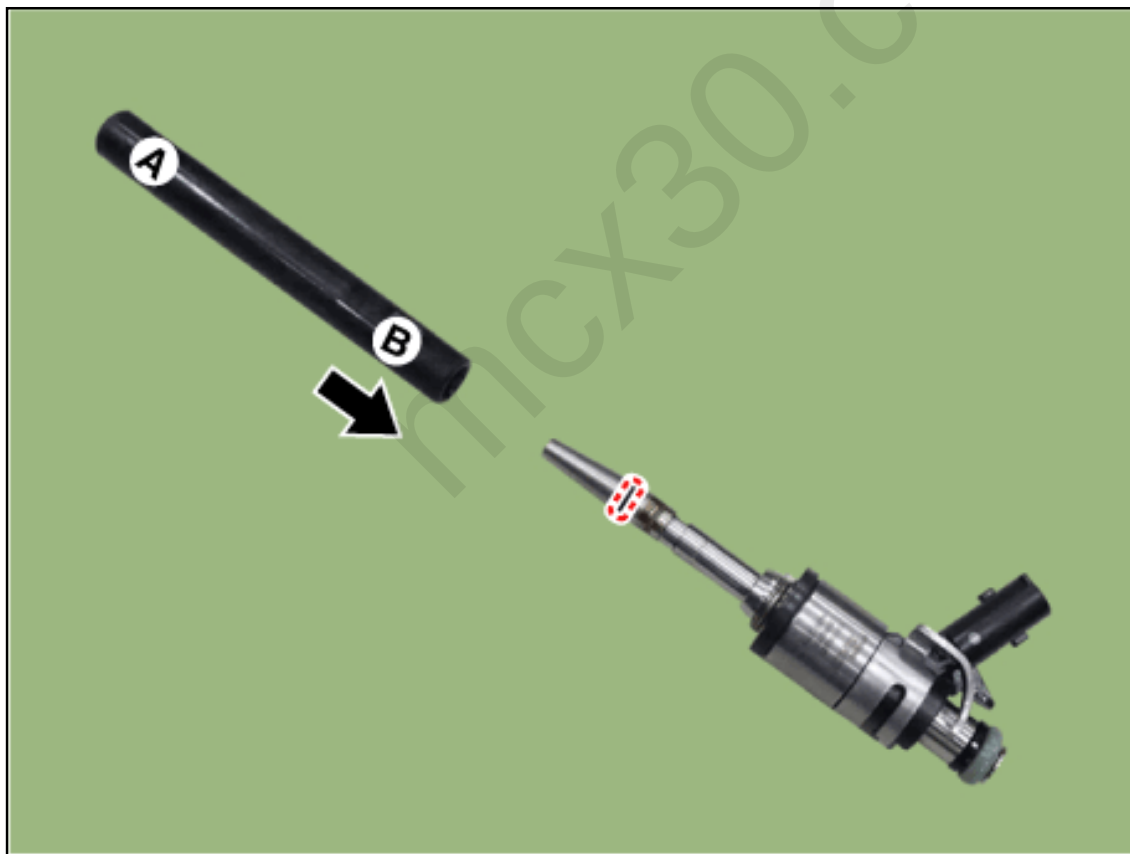
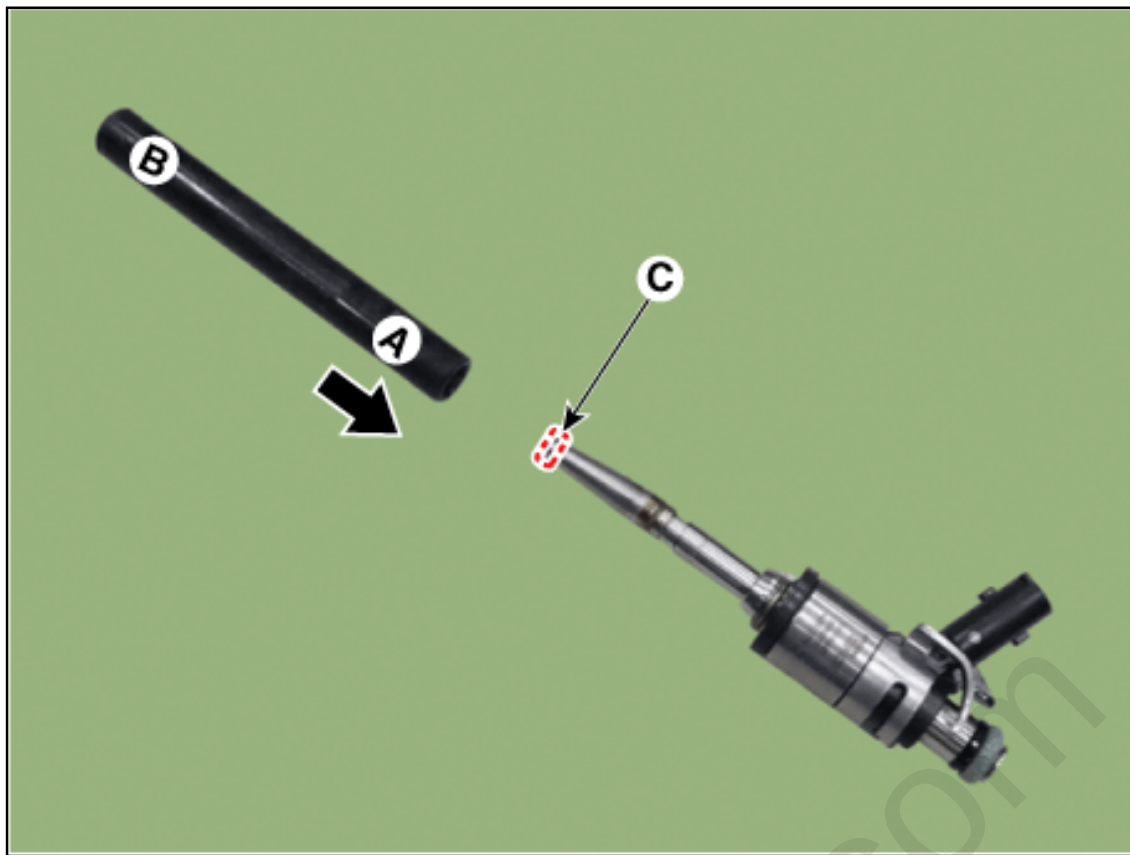
The surfaces of the new sealing ring must be clean and free of grease.

3. Place the seal installing guide (B) (SST No. : 09353-2B000) on the tip of the injector not to damage the injector tip (A).

Push the sealing ring (C) with thumb and index finger over the conical assembly tool until it snaps into the groove.

The complete assembly must not take longer than 2 to 3 seconds.





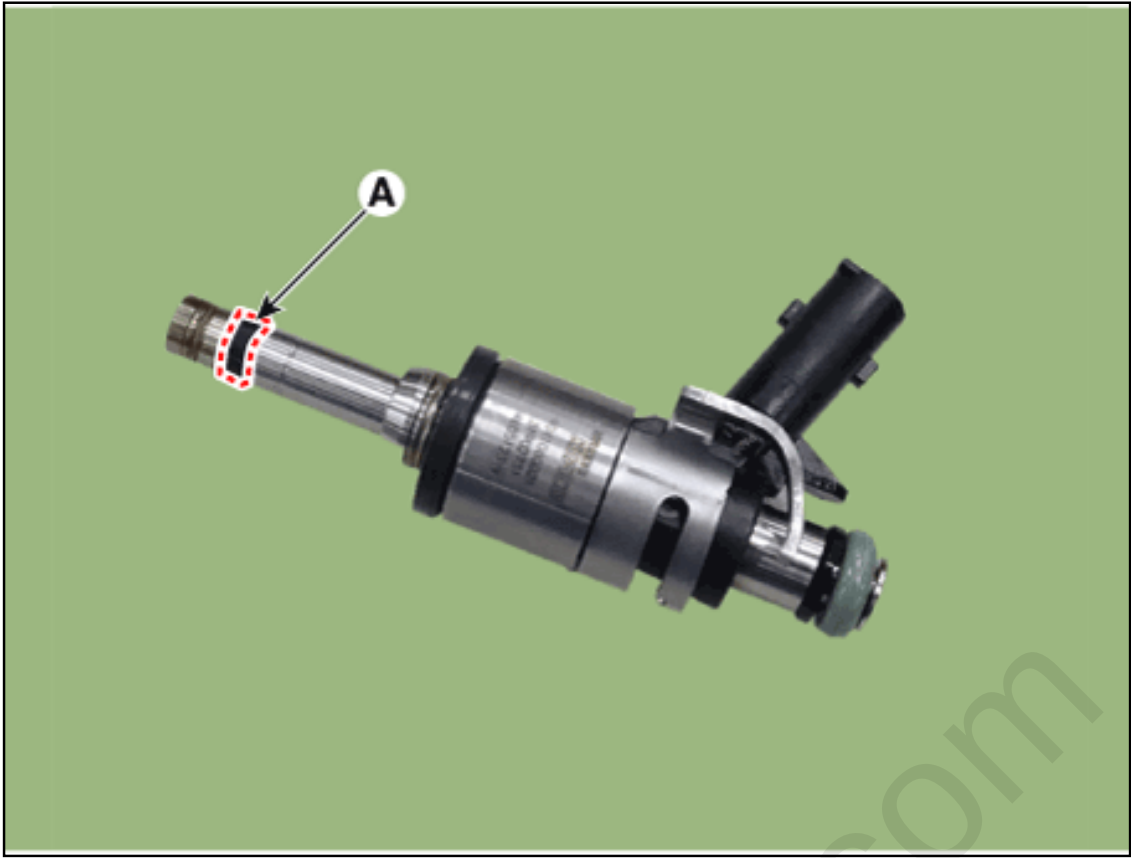
4. To size the sealing ring the injector is first introduced into the sizing tool (A) (SST No. : 09353-2B000) and then pressed and at the same time rotated 180° into the sizing tool.



5. Pull the injector out of the sizing tool by turning it in the reverse direction to that used for the press-in process.

- ☐
- Check that the seal ring has not been damaged during assembly to the injector and that no circumferential scratches are present.
 - Do not reuse the combustion seal.
 - The seal must be completely free of grease and oil.

6. Check the combustion seal (A) installation.



mcx30.com