- the gasoline inlet high pressure pipe on the injector rail,
- the gasoline inlet high pressure pipe on the high pressure pump.

Torque tighten(see **17B**, **Petrol injection**, **Petrol injection: List and location of components**, page) using the tool Tool for removing high pressure pipes. and the toolOffset wrench for tightening High Pressure pump pipes.(**Mot. 1746**) :

- the gasoline inlet high pressure pipe nut,
- the gasoline inlet high pressure pipe on the injector rail,
- the gasoline inlet high pressure pipe on the high pressure pump.

WARNING

After any intervention, check for leaks in the fuel system. Run the engine at idle speed until the start of the group cooling fans, and make several acceleration cycles. Check for leaks.

Proceed in the reverse order to removal.

INJECTOR RAIL - INJECTORS: REMOVAL - REFITTING

Note, one or more warnings are present in this procedure

Special tooling required	
Tool for removing high pressure pipes.	
Tool for fitting and pretightening the injector seal. Petrol Direct Injection.	Mot. 1533
Offset wrench for tightening High Pressure pump pipes.	Mot. 1746

WARNING

Wear leaktight gloves (Nitrile type) for this operation.

WARNING

Wear goggles with side protectors for this operation.

WARNING

During this operation, be sure to:

- refrain from smoking or bringing red hot objects close to the working area,
- be careful of fuel splashes when disconnecting the union.

WARNING

Be careful when removing the injectors or the injection rail as there will be a quantity of fuel in the rail and the union.

WARNING

Use the diagnostic tool before any operation is carried out on the injection circuit to check:

- that the rail is not under pressure,
- that the fuel temperature is not too high.

Working on the circuit with the engine running is strictly forbidden.

CAUTION

It is forbidden to directly test the injectors 12V.

Note:

For each parts, use the correct blanking plug available in the set of blanking plug.

Location and specifications (tightening torques, parts always to be replaced, etc...)(see **Petrol injection: List and location of components**) .

	is replaced by	High pressure pump	Injector rail + original pipe (grey nut)	After-sales pipe (black nut)	Tightening torques of the pipe
Part removed					
High pressure pump + original pipe (grey nut)		X		X	35 N.mon the pump, 35 N.mon the injector rail
High pressure pump + after-sales pipe (black nut)		X	X		35 N.mon the high pressure pump, 25 N.m on the injector rail
Injector rail + original pipe (grey nut)			X		35 N.mon the high pressure pump, 25 N.m on the injector rail
Injector rail + after-sales pipe (black nut)			X		35 N.mon the high pressure pump, 25 N.m on the injector rail
Original pipe (grey nut)				X	35 N.mon the high pressure pump, 35 N.m on the injector rail
After-sales pipe (black nut)			X		35 N.mon the high pressure pump, 25 N.m on the injector rail

REMOVAL

1. REMOVAL PREPARATION OPERATION

Position the vehicle on a two-post lift Vehicle: Towing and lifting .

Disconnect the battery Battery: Removal - Refitting .

Remove:

- the engine undertray bolts,
- the engine undertray,
- the turbocharger air outlet pipe (see 12A, Fuel mixture, Air inlet assembly: Exploded view) ,
- the throttle valve (see 12A, Fuel mixture, Air inlet assembly: Exploded view) ,
- the inlet distributor (see 12A, Fuel mixture, Air inlet assembly: Exploded view) .

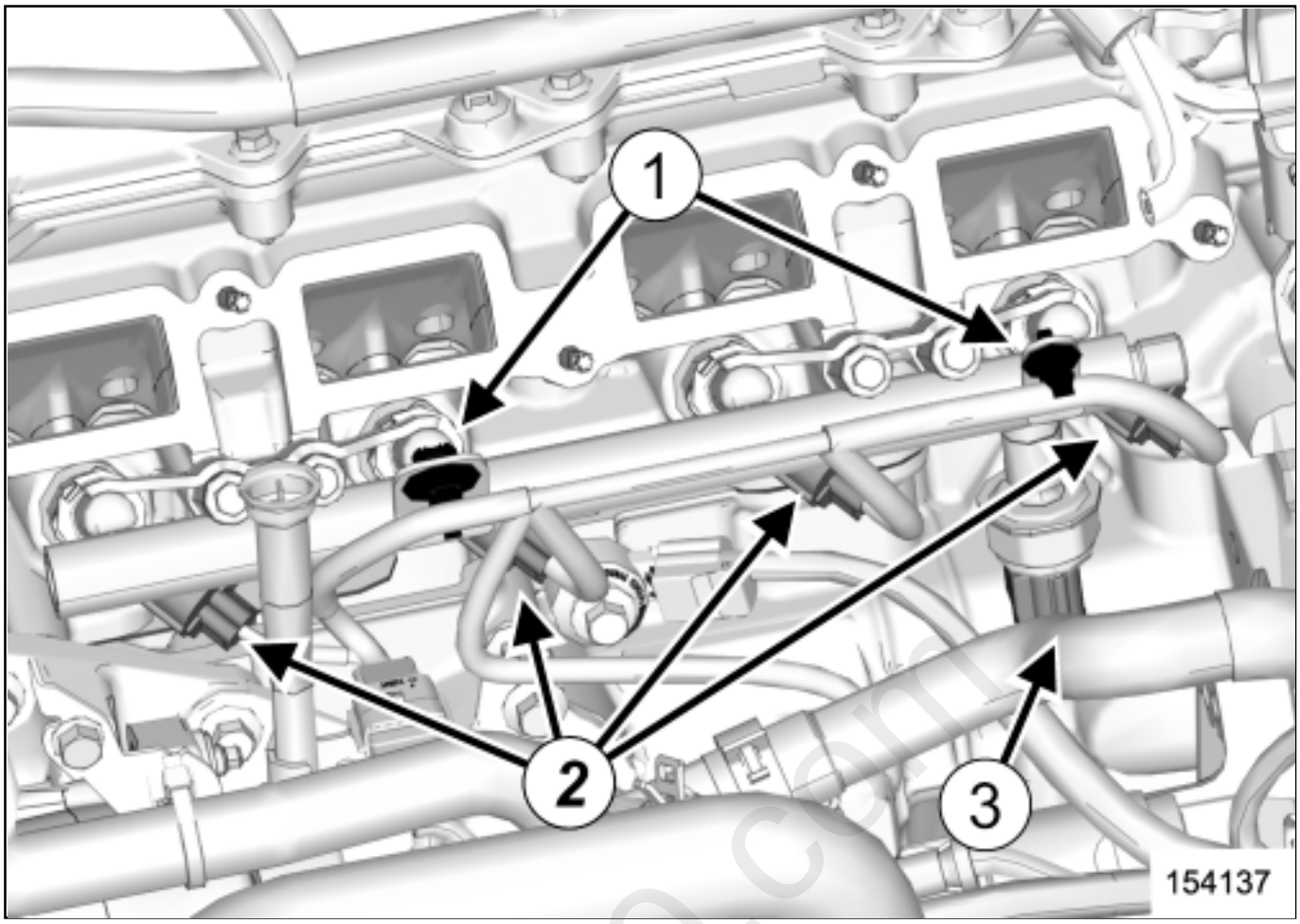
2. REMOVAL OPERATION

CAUTION

To avoid any corrosion or damage, protect the areas on which fuel is likely to run.

Remove (see **Petrol injection: List and location of components**) :

- the gasoline inlet high pressure pipe from the injector rail,
- the gasoline inlet high pressure pipe from the high pressure pump,
- the gasoline inlet high pressure pipe nut,
- the gasoline inlet high pressure pipe.



Unclip the injection wiring(1) from the injector rail.

Disconnect:

- the connector from each injectors(2) ,
- the rail pressure sensor connector(3) .

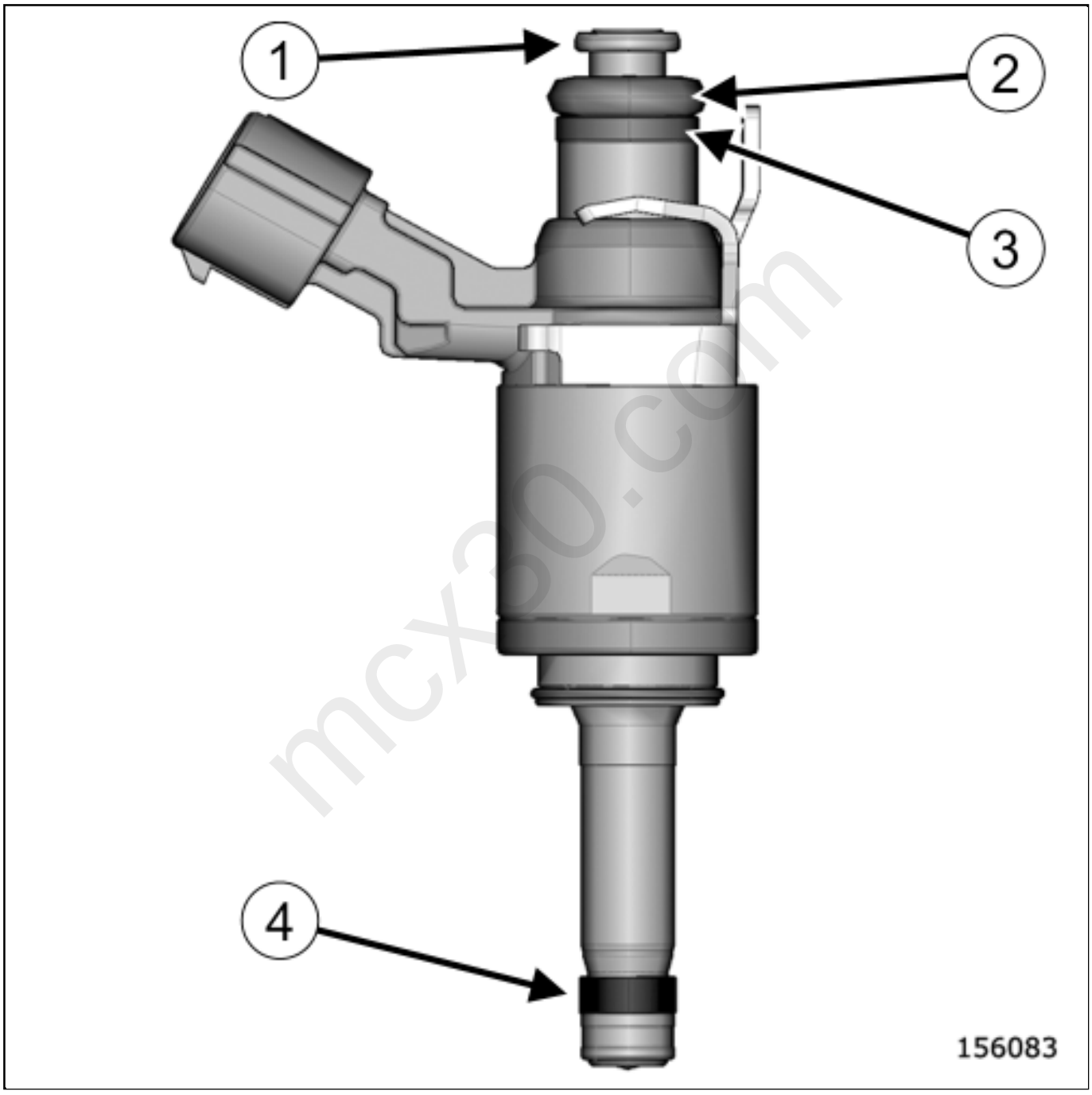
Remove (see **Petrol injection: List and location of components**) :

- the "injector rail - injectors" assembly bolts,
- the "injector rail - injectors" assembly.

Note:

The injector is held neither on the rail nor on the cylinder head.

Be careful never to shock the injector.



(1) Ring stopper

(2) Seal o-ring

(3) Thrust washer

(4) Teflon ring seal

Remove (see **Petrol injection: List and location of components**) :

- the injectors from the injector rail,
- the seal o-ring from the injector,
- the thrust washer from the injector,
- the ring stopper from the injector,
- the rail pressure sensor from the injector rail.

1- REMOVAL OF THE INJECTOR NOZZLE TEFLON RING SEAL

Clean the injector using the surface cleaner[Vehicle: Parts and consumables for the repair] .

Note:

it is forbidden to use a wire brush, sandpaper, etc...

Cut the injector nozzle teflon ring seal with a pliers circlip.

Note:

Pay attention to the injector when cutting the injector nozzle teflon ring seal.

REFITTING

1. REFITTING PREPARATION OPERATION

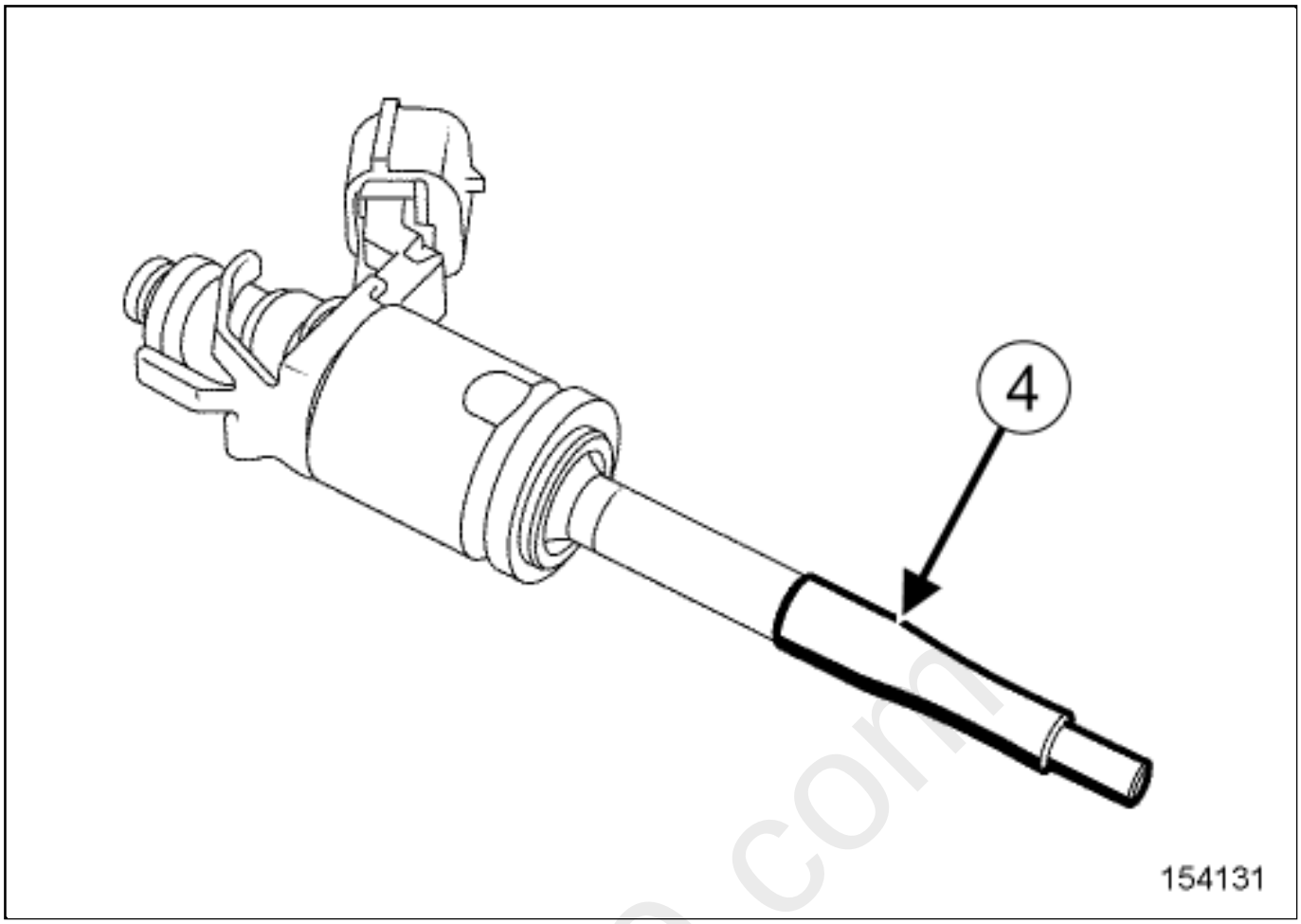
Parts always to be replaced:

- the injector nozzle teflon ring seal,
- the thrust washer,
- the seal o ring,
- the ring stopper from the injector,
- the gasoline inlet high pressure pipe (see table above),
- the injector rail (see table above).

Refit (see **Petrol injection: List and location of components**) :

- the new seal o ring on the injector,
- the new thrust washer on the injector,
- the new ring stopper on the injector.

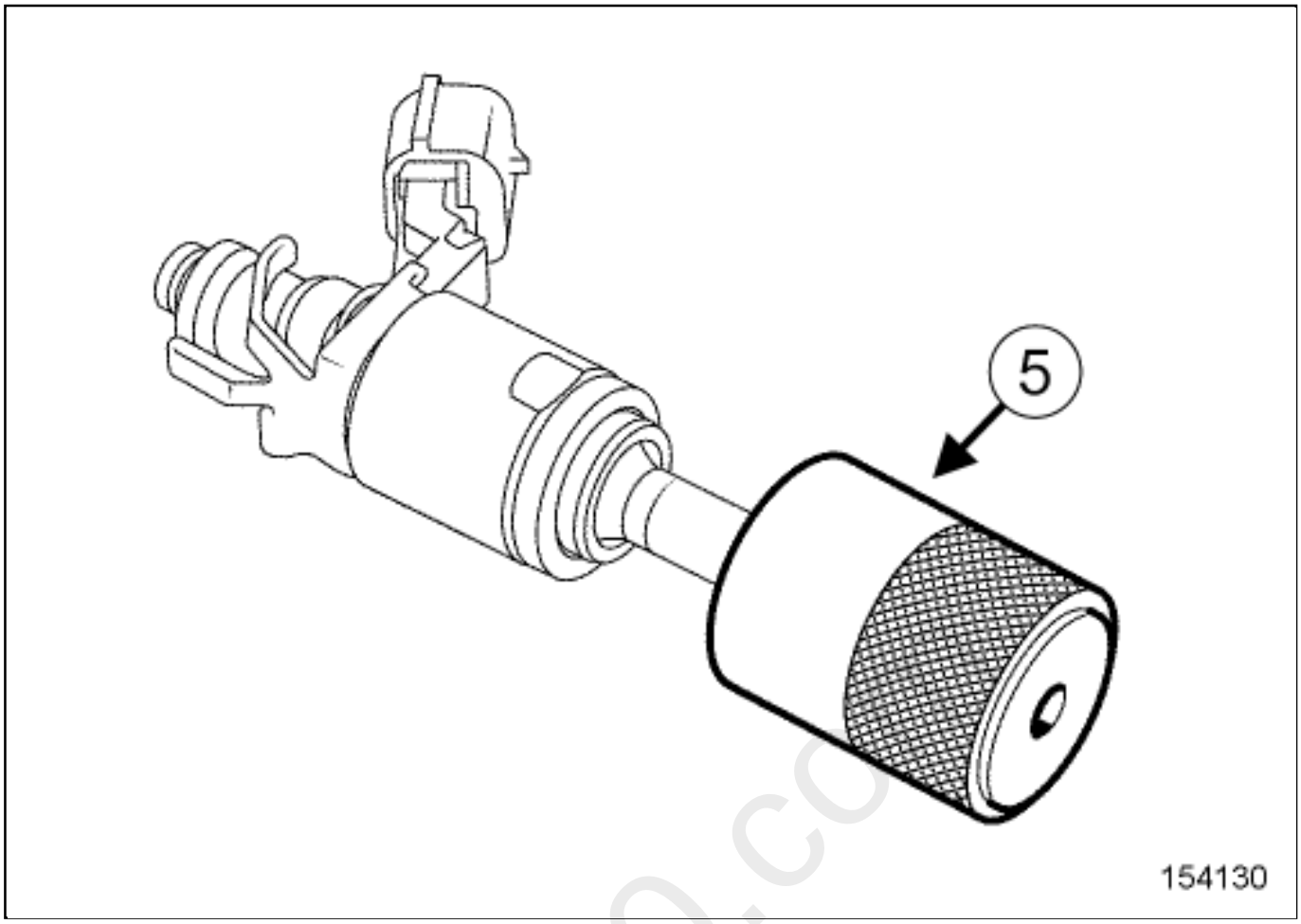
1- REFITTING OF THE INJECTOR NOZZLE TEFLON RING SEAL



Fit:

- the cone of the toolTool for fitting and pretightening the injector seal. Petrol Direct Injection.(**Mot. 1533**) (**4**) on the injector,
- the new injector nozzle teflon ring seal on the cone.

Push the injector nozzle teflon ring seal into its groove.



Remove the cone of the toolTool for fitting and pretightening the injector seal. Petrol Direct Injection. (Mot. 1533) (4) .

Push the reforming tool(5) around the injector nozzle to retract the seal during minimum 30 seconds to set correct outside diameter for teflon ring seal.

Refit (see **Petrol injection: List and location of components**) :

- the injectors on the new injector rail,
- the rail pressure sensor on the new injector rail.

Torque tighten the rail pressure sensor(see **Petrol injection: List and location of components**) .

2. REFITTING OPERATION

Refit (see **Petrol injection: List and location of components**) :

- the "injector rail - injectors" assembly,
- the "injector rail - injectors" assembly bolts.

Note:

The injector is held neither on the rail nor on the cylinder head.

Be careful never to shock the injector.

Torque tighten in the order the "injector rail - injectors" assembly bolts(see **Petrol injection: List and location of components**) .

Connect:

- the connector of each injectors,
- the rail pressure sensor connector.

Clip the injection wiring on the injector rail.

Refit (see **Petrol injection: List and location of components**) :

- the gasoline inlet high pressure pipe,
- the gasoline inlet high pressure pipe nut,