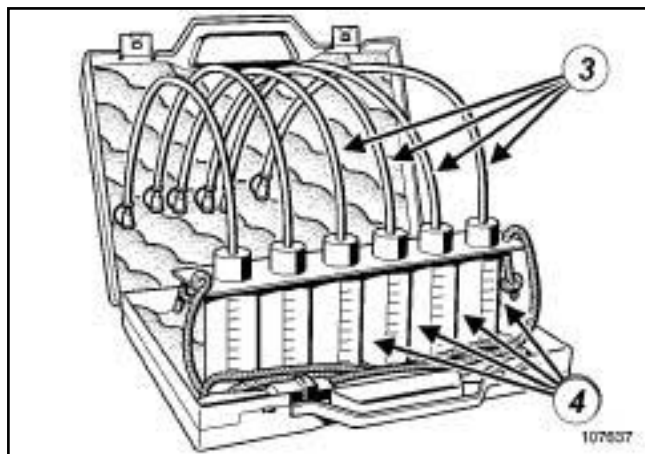


DIESEL INJECTION

Injector leak flow: Check

13B

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- ☐ Connect four of the transparent pipes (3) of the onto the diesel injector return.
- ☐ Insert these pipes in the four graduated measuring cylinders (4) of the.

Note:

If necessary, attach the graduated measuring cylinder rail of the to the bonnet.

- ☐ Connect the **Diagnostic tool** to the vehicle.
- ☐ Follow the instructions given in test 9: Injector sealing test (see **Fault finding - Test**) (13B, Diesel injection).
- ☐ Disconnect the transparent pipes from the.
- ☐ Remove the transparent pipes from the graduated measuring cylinder of the.
- ☐ Empty the diesel fuel out of the graduated measuring cylinders.
- ☐ Connect:
 - the diesel return pipes on the injectors,
 - the diesel return pipe to the Venturi attached to the high pressure pump.
- ☐ Replace the faulty injector(s) (see **13B, Diesel injection, Diesel injector: Removal - Refitting**, page **13B-32**).
- ☐ Check that there are no fuel leaks.
- ☐ Use the **Diagnostic tool** to check for the absence of stored faults, deal with them and clear them, as necessary.
- ☐ Disconnect the **Diagnostic tool**.
- ☐ Refit the air filter unit (see **12A, Fuel mixture, Air filter unit: Removal - Refitting**, page **12A-6**).

DIESEL INJECTION

Diesel injector: Removal - Refitting

13B

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Equipment required

Diagnostic tool

Tightening torques

diesel injector clamp bolt	28 N.m
injector rail nuts	28 N.m
« rail-injector» high pressure pipe nuts	24 N.m
nuts of the neck and dipstick guide on the injector rail	21 N.m

IMPORTANT

To avoid all risk of damage to the systems, apply the safety and cleanliness instructions and operation recommendations before carrying out any repair (see **Diesel injection: Precautions for the repair**) .

IMPORTANT

Before carrying out any work on the injection system, check using the **Diagnostic tool** :

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

It is essential to respect the safety and cleanliness advice whenever work is carried out on this system.

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

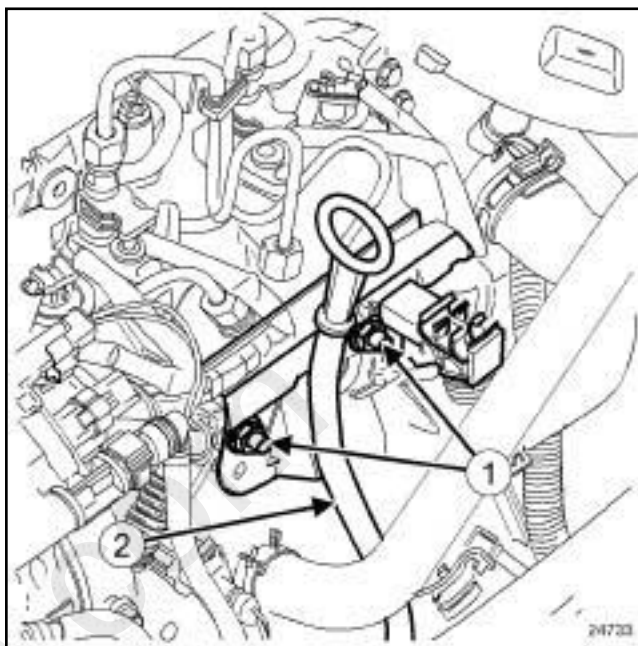
IMPORTANT

Wear leaktight gloves (Nitrile type) for this operation.

Injectors may be replaced individually.

Remove:

- the engine cover,
- the air filter unit (see **12A, Fuel mixture, Air filter unit: Removal - Refitting**, page 12A-6) .



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- Remove the nuts (1) from the dipstick guide and neck.

- Put the engine oil dipstick guide to one side (2) .

REMOVAL

I - REMOVAL PREPARATION OPERATION

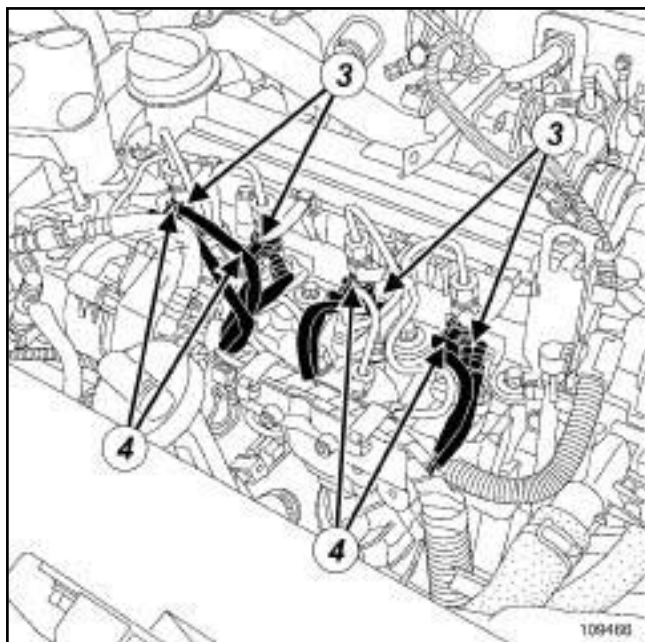
- Disconnect the battery (see **Battery: Removal - Refitting**) (80A, Battery).

DIESEL INJECTION

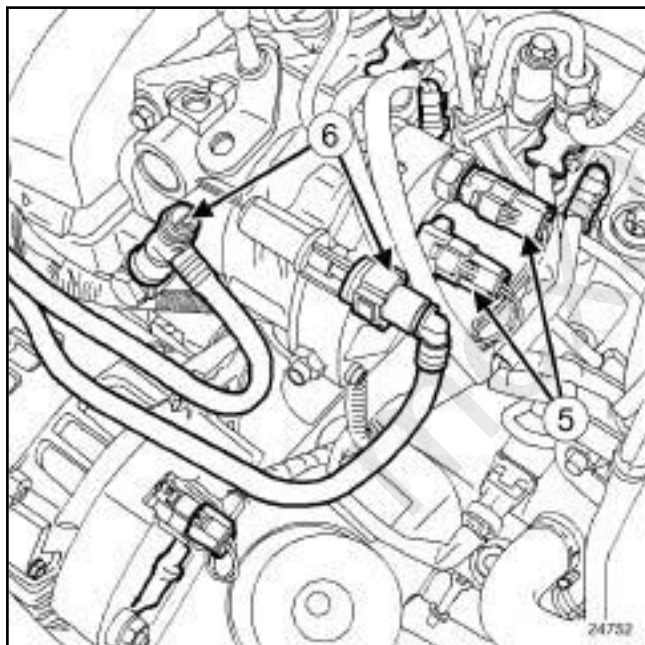
Diesel injector: Removal - Refitting

13B

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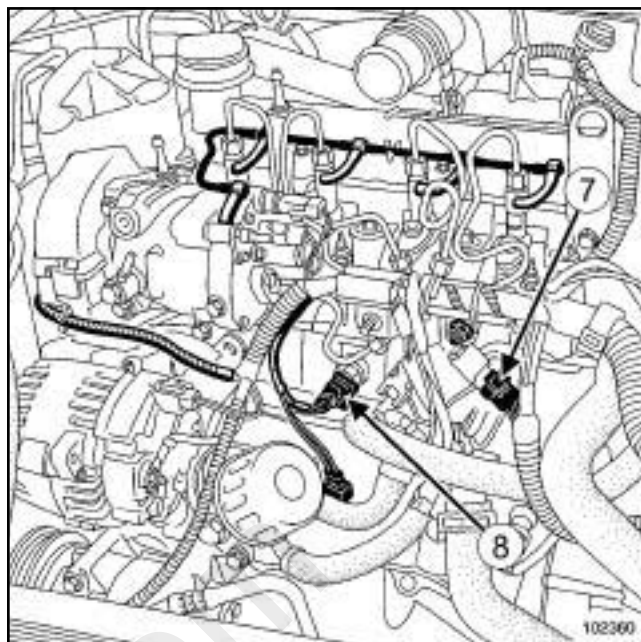


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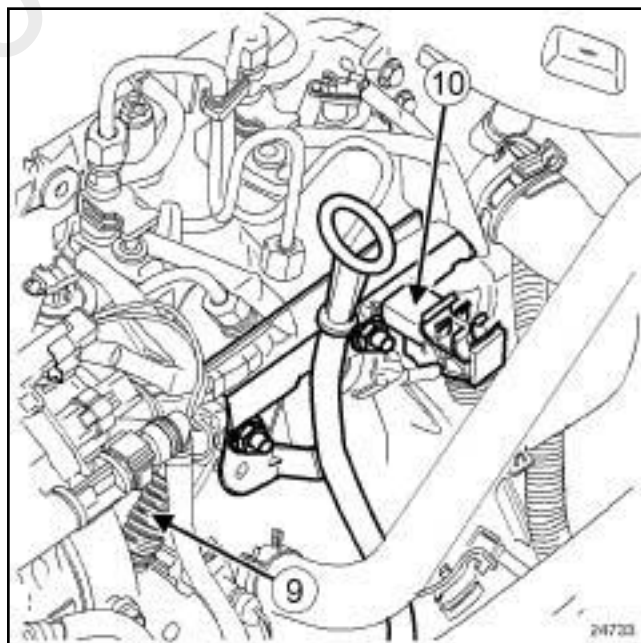
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- ❑ Disconnect:
 - the heater plugs (3) ,
 - the injectors (4) ,
 - the connectors (5) on the high pressure pump,
 - the diesel return pipe connecting the injectors to the high pressure injection pump.
- ❑ Clean the diesel supply and return pipes (see **Diesel injection: Precautions for the repair**) .
- ❑ Disconnect the diesel supply and return pipes (6) .
- ❑ Plug the openings.



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- ❑ Disconnect:
 - the pressure sensor (7) from the injector rail,
 - the accelerometer (8) .



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- ❑ Unclamp the engine wiring (9) and place it to one side.
- ❑ Remove the neck (10) located on the injector rail.
- ❑ Remove the «rail-injector» high pressure pipes (see **13B, Diesel injection, High pressure pipe between rail and injector: Removal - Refitting, page 13B-22**) .
- ❑ Plug the openings.

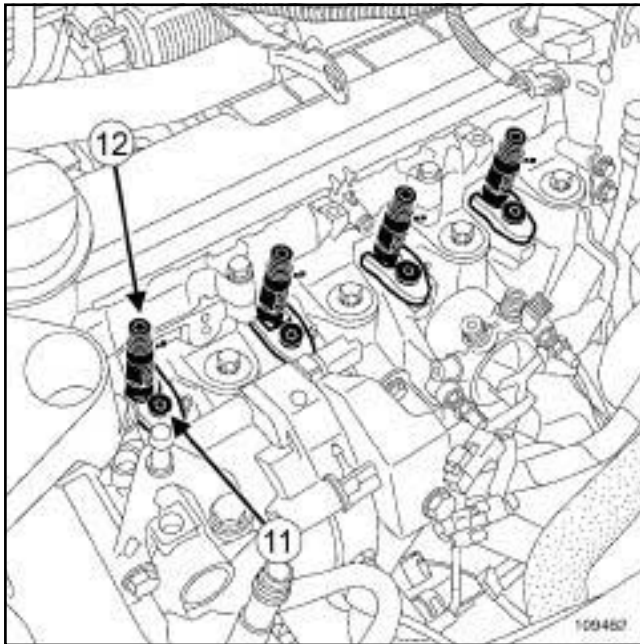
DIESEL INJECTION

Diesel injector: Removal - Refitting

13B

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II - OPERATION FOR REMOVAL OF PART CONCERNED



109462

- ❑ Loosen the injector clamp bolt (11) .

Note:

If reusing a diesel injector, always mark the removed diesel injector in relation to its cylinder.

- ❑ Remove the diesel injector (12) .

Note:

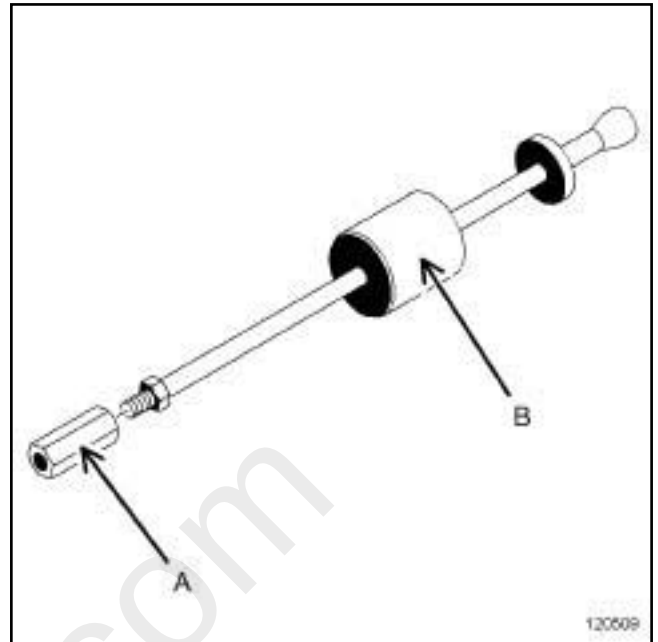
If the diesel injector is jammed, remove the injector using the tool and the tool.

- ❑ Remove the heat protection washer.

Note:

If the heat protection washer is stuck at the bottom of the well, use the (see **Injector well cleaning tool: Use**) (Technical Note 6040A, 13B, Diesel injection).

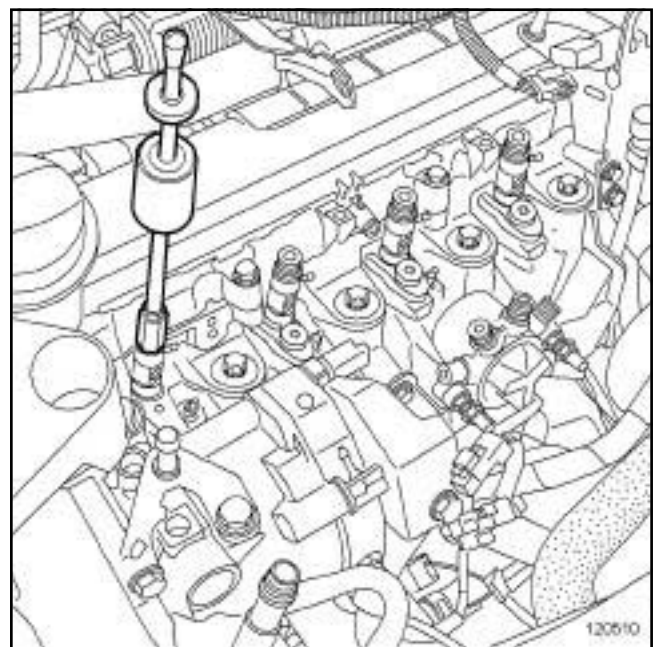
REMOVING THE INJECTORS USING TOOLS (MOT. 921-01) AND (EMB. 880)



120509

- (A) Tool for extracting injector holders (Mot. 921-01).
- (B) Pin extractor (Emb. 880).

- ❑ Fit the tool on the extractor
- ❑ Apply releasing agent around the diesel injector.



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- ❑ Fit the slide hammer onto the diesel injector.
- ❑ Extract the jammed injector using the slide hammer.

DIESEL INJECTION

Diesel injector: Removal - Refitting

13B

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REFITTING

I - REFITTING PREPARATION OPERATION

- ☐ Always replace the heat protection washer of the diesel injector concerned.

Cleaning parts

☐

WARNING

It is strictly forbidden to clean the injectors with:

- a wire brush,
- an emery cloth,
- an ultrasonic cleaner.

- ☐ Always clean the well of the removed injector (see **Injector well cleaning tool: Use**) (Technical Note 6040A, 13B, Diesel injection).
- ☐ If reusing the removed injector:
 - clean the injector using a **CLOTH FOR INJECTION SYSTEM** soaked in **INJECTOR CLEANER** or **BRAKE CLEANER** (see **Vehicle: Parts and consumables for the repair**) (04B, Consumables - Products),
 - if necessary, leave the injector nozzle to soak in **INJECTOR CLEANER** (see **Vehicle: Parts and consumables for the repair**) (04B, Consumables - Products),
 - wipe the injector with a new **CLOTH FOR INJECTION SYSTEM**, (see **Vehicle: Parts and consumables for the repair**) (04B, Consumables - Products) and (see **Diesel injection: Precautions for the repair**) (13B, Diesel injection).

II - REFITTING OPERATION FOR PART CONCERNED

☐

WARNING

Do not remove the caps from each component until the last moment.

Note:

If one or more injectors are replaced, note the alphanumeric code (C2I) and the cylinder on which it is fitted.

- ☐ Refit the injector with its clamp.

- ☐ Torque tighten the **diesel injector clamp bolt (28 N.m)**.

III - FINAL OPERATION

- ☐ Fit the high pressure pipes (see **13B, Diesel injection, High pressure pipe between rail and injector: Removal - Refitting**, page 13B-22) .
- ☐ Torque tighten the **injector rail nuts (28 N.m)**.
- ☐ Torque tighten in order the « **rail-injector** » **high pressure pipe nuts (24 N.m)** (see **13B, Diesel injection, High pressure pipe between rail and injector: Removal - Refitting**, page 13B-22) .
- ☐ Refit the neck located on the injector rail.
- ☐ Secure the engine wiring on the neck.
- ☐ Connect:
 - the accelerometer,
 - the high pressure rail pressure sensor,
 - the diesel return pipe connecting the injectors to the high pressure pump,
 - the diesel supply and return pipes on the high pressure pump,
 - the electrical connectors on the high-pressure pump,
 - the injectors,
 - the heater plugs.
- ☐ Refit the dipstick guide.
- ☐ Torque tighten the **nuts of the neck and dipstick guide on the injector rail (21 N.m)**.
- ☐ Refit:
 - the air filter unit (see **12A, Fuel mixture, Air filter unit: Removal - Refitting**, page 12A-6) .
 - the engine cover,
- ☐ Connect the battery (see **Battery: Removal - Refitting**) (80A, Battery).