

Injector holder shim: Removal - Refitting

K4M

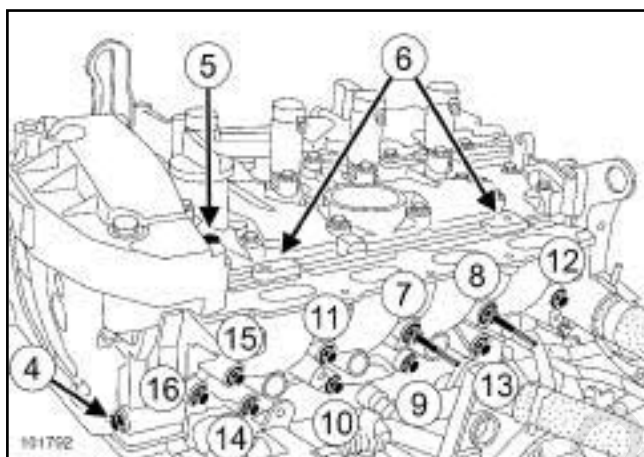
REFITTING

I - REFITTING PREPARATION OPERATION

- ☐ The injector holder shim seal must always be replaced.

II - REFITTING OPERATION

- ☐ Fit:
 - the injector holder shim,
 - all the injector holder shim bolts.



101792

- ☐ Place the injector holder shim against:
 - the upper timing cover by manually tightening the bolt (4) ,
 - the suspended engine mounting by manually tightening the bolt (5) .
- ☐ Position the injector holder shim against the shims (6) on the rocker cover.
- ☐ Tighten to torque and in order:
 - the **injector holder shim bolts (7) and (8) (25 N.m)**,
 - the **injector holder shim bolts 9 to 16 (21 N.m)**.

III - FINAL OPERATION

- ☐ Torque tighten:
 - the **upper timing cover bolt (41 N.m)**,
 - the **suspended mounting bolt (62N.m)**.
- ☐ Refit:
 - the multifunction support (see **10A, Engine and cylinder block assembly, Multifunction support: Removal - Refitting**, page 10A-48) ,

- the injector rail (see **17B, Petrol injection, Injector rail - Injectors: Removal - Refitting**, page 17B-10) ,

- the inlet distributor (see **12A, Fuel mixture, Inlet distributor: Removal - Refitting**, page 12A-12) .

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

K9K

Tightening torques

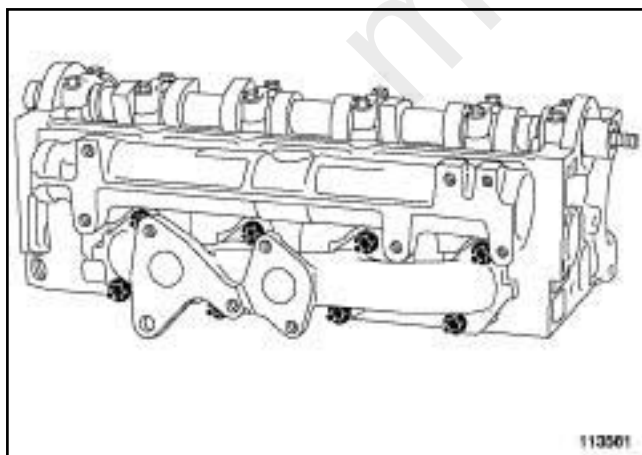
exhaust manifold stud	9 N.m
exhaust manifold nuts	26 N.m

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Disconnect the battery (see **Battery: Removal - Refitting**) (80A, Battery).
- ☐ Remove:
 - the air filter unit (see **12A, Fuel mixture, Air filter unit: Removal - Refitting**, page 12A-6) ,
 - the engine undertray,
 - the catalytic converter (see **19B, Exhaust, Catalytic converter: Removal - Refitting**, page 19B-10) ,
 - the exhaust gas recirculation assembly (see **14A, Antipollution, Exhaust gas recirculation assembly: Removal - Refitting**, page 14A-9) ,
 - the turbocharger (see **12B, Turbocharging, Turbocharger: Removal - Refitting**, page 12B-1) .

II - REMOVAL OPERATION



113561

- ☐ Remove:
 - the exhaust manifold nuts,
 - the exhaust manifold.
- ☐ Mark the position of the exhaust manifold gasket.
- ☐ Remove the exhaust manifold gasket.

REFITTING

I - REFITTING PREPARATION OPERATION

- ☐ parts always to be replaced: exhaust manifold seal.
- ☐ Use **GREY ABRASIVE PADS** (see **Vehicle: Parts and consumables for the repair**) (04B, Consumables - Products) to clean the joint face:
 - the cylinder head,
 - of the exhaust manifold, if it is to be reused.
- ☐ Use **SURFACE CLEANER** (see **Vehicle: Parts and consumables for the repair**) (04B, Consumables - Products) and **CLEAN CLOTHS** to clean and degrease the joint faces:
 - the cylinder head,
 - of the exhaust manifold, if it is to be reused.

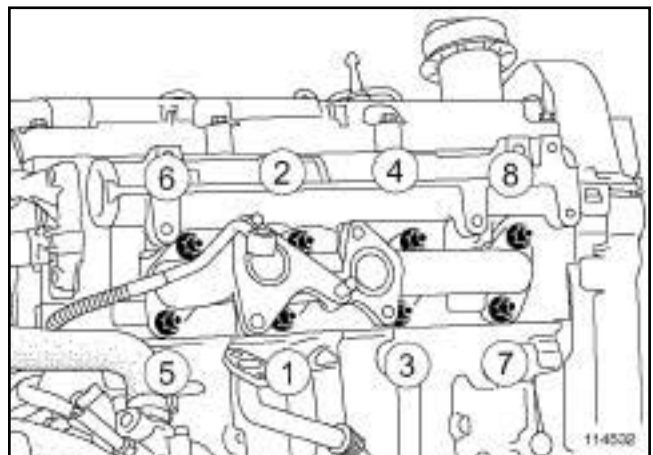
Note:

If a stud is loosened during this operation, coat the stud with **HIGH RESISTANCE THREAD LOCK** (see **Vehicle: Parts and consumables for the repair**) (04B, Consumables - Products).

- ☐ Torque tighten the **exhaust manifold stud (9 N.m)**.

II - REFITTING OPERATION

- ☐ Refit:
 - a new exhaust manifold gasket in the position marked during removal,
 - the exhaust manifold.



114532

- ☐ Torque tighten in order the **exhaust manifold nuts (26 N.m)**.

Exhaust manifold: Removal - Refitting

K9K

III - FINAL OPERATION

☐ Refit:

- the turbocharger (see **12B, Turbocharging, Turbocharger: Removal - Refitting**, page **12B-1**) ,
- the exhaust gas recirculation assembly (see **14A, Antipollution, Exhaust gas recirculation assembly: Removal - Refitting**, page **14A-9**) ,
- the catalytic converter (see **19B, Exhaust, Catalytic converter: Removal - Refitting**, page **19B-10**) ,
- the engine undertray,
- the air filter unit (see **12A, Fuel mixture, Air filter unit: Removal - Refitting**, page **12A-6**) .

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

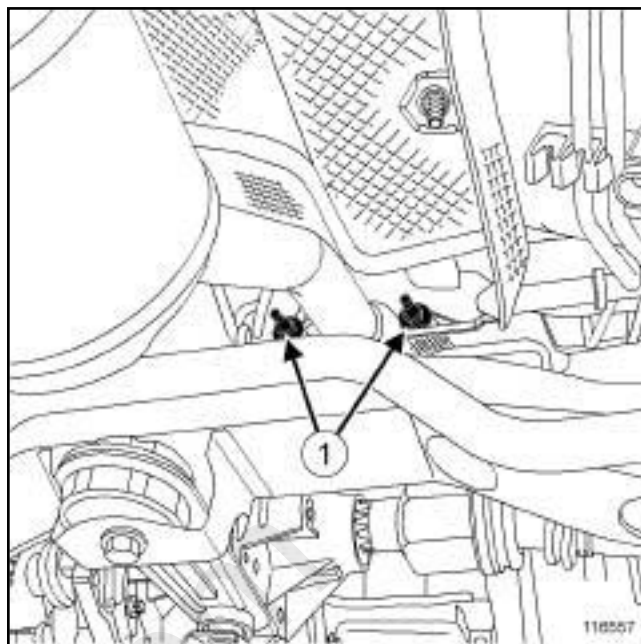
K4M

Tightening torques 	
exhaust manifold studs	8 N.m
exhaust manifold mounting nuts	23 N.m
bolts (6) mounting the stay on the cylinder block	21 N.m
nut (7) mounting the stay on the exhaust manifold	21 N.m
exhaust manifold upper heat shield mounting bolts	12 N.m
upstream oxygen sensor	45 N.m
exhaust bracket mounting bolts	21 N.m

REMOVAL

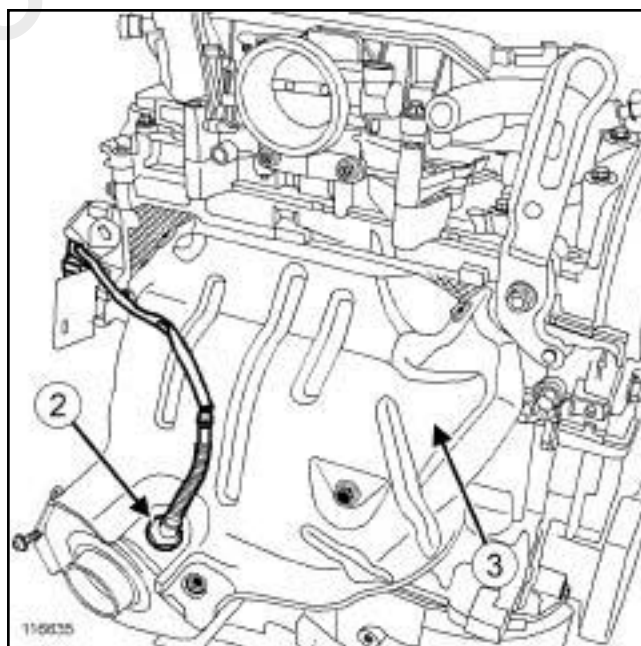
I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Disconnect the battery (see **Battery: Removal - Refitting**) (80A, Battery).
- ☐ Remove:
 - the air resonator (see **12A, Fuel mixture, Air resonator: Removal - Refitting**, page 12A-2),
 - the air filter unit (see **12A, Fuel mixture, Air filter unit: Removal - Refitting**, page 12A-6).



116557

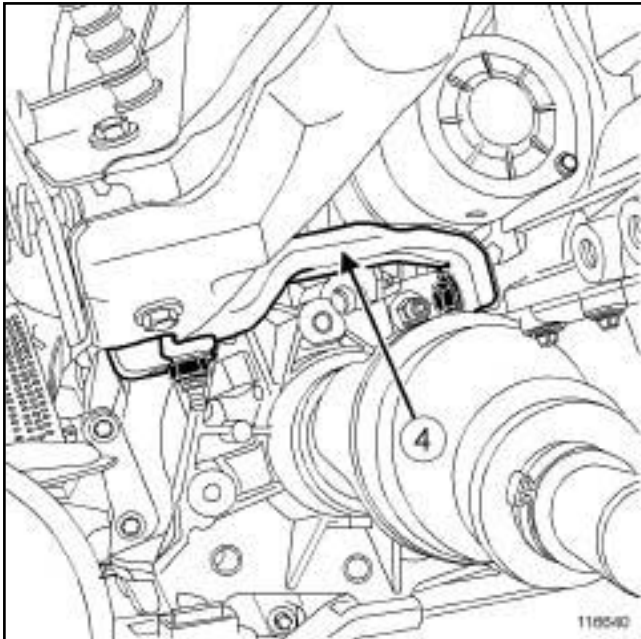
- ☐ Remove the nuts (1) from the exhaust flange.
- ☐ Push the exhaust pipe towards the rear of the vehicle.



116635

- ☐ Disconnect the upstream oxygen sensor connector (2).
- ☐ Remove:
 - the upstream oxygen sensor using the,
 - the upper heat shield (3) from the exhaust manifold.

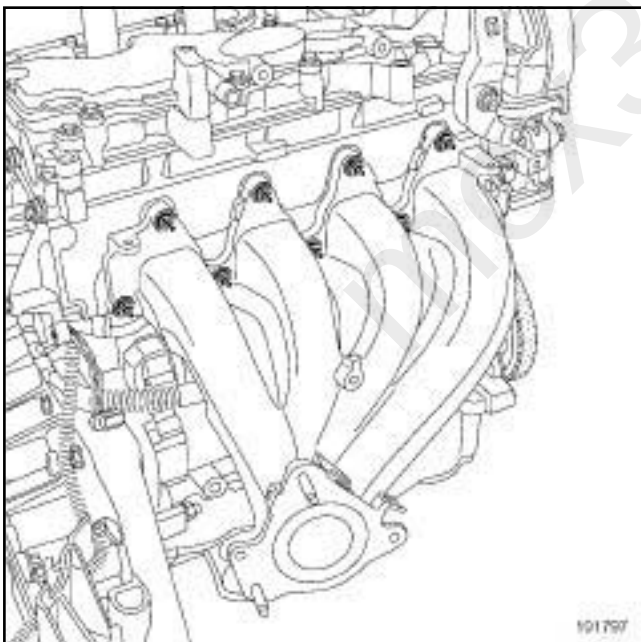
K4M



116640

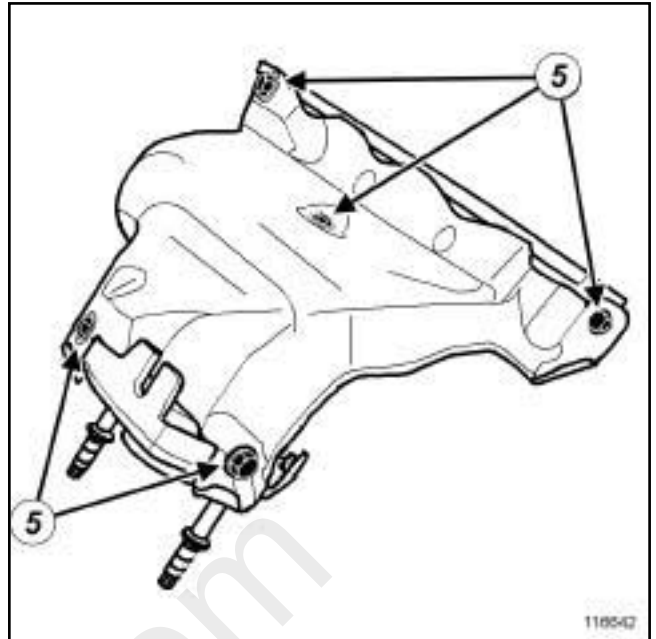
- ❑ Remove the stay (4) between the exhaust manifold and the cylinder block.

II - REMOVAL OPERATION



101797

- ❑ Remove:
 - the exhaust manifold nuts,
 - the exhaust manifold.



116642

- ❑ Using the workbench, remove:
 - the bolts (5) from the exhaust manifold lower heat shield,
 - the lower heat shield from the exhaust manifold.

REFITTING

I - REFITTING PREPARATION OPERATION

- ❑ parts always to be replaced: exhaust manifold seal.
- ❑ parts always to be replaced: ring between exhaust manifold and catalytic converter.
- ❑ Use **SURFACE CLEANER** (see **Vehicle: Parts and consumables for the repair**) (04B, Consumables - Products) to clean and degrease:
 - the exhaust manifold joint face if it is to be re-used,
 - the cylinder head joint face.

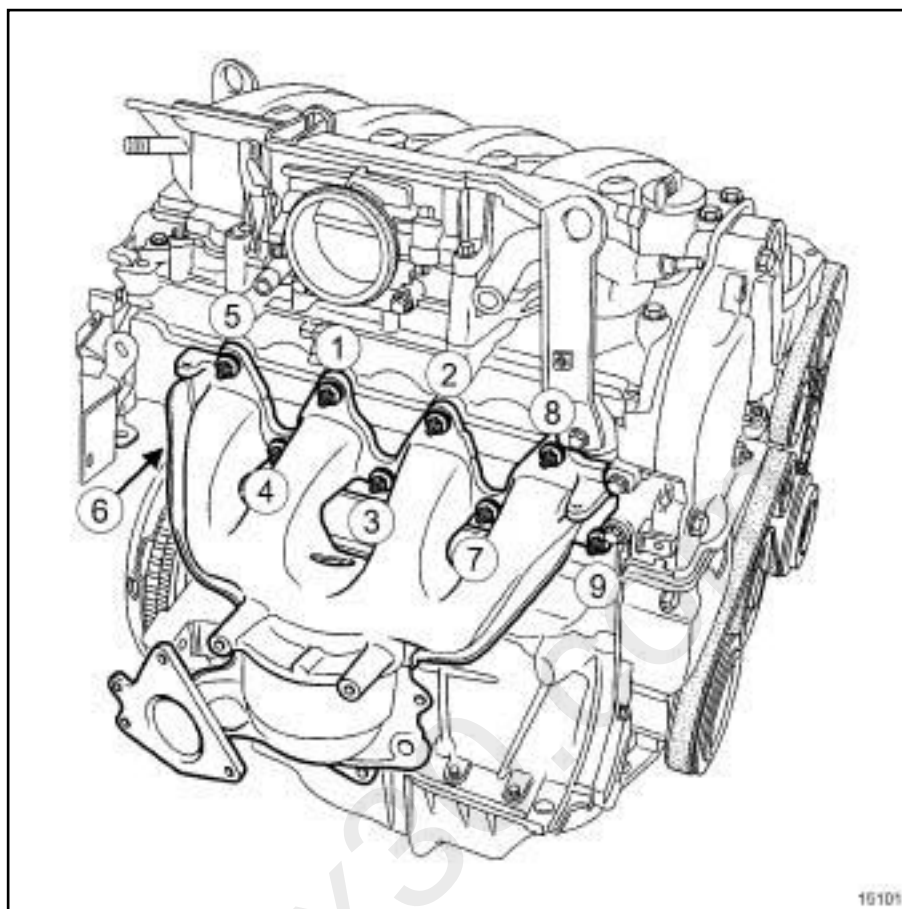
Note:

If a stud loosens during removal, coat it with **HIGH RESISTANCE THREADLOCK** (see **Vehicle: Parts and consumables for the repair**) (04B, Consumables - Products).

- ❑ Tighten to torque the **exhaust manifold studs (8 N.m)**.

Exhaust manifold: Removal - Refitting

K4M

II - REFITTING OPERATION FOR PART
CONCERNED

15101

15101

- ☐ Refit the exhaust manifold.
- ☐ Tighten to torque and in order the **exhaust manifold mounting nuts (23 N.m)**.