Note:

If there are leaks from the **EXHAUST TRUNKING WITH 1 BOLT**, apply **EXHAUST MASTIC** to the trunking (see part no. in Technical Note 5068, 04B, Consumables - Products).

If the application of exhaust mastic does not fix the leak:

- remove and replace the used exhaust trunking,
- check the condition of the exhaust pipes (condition of the pipe surface, deburring of the area cut, damage to the pipes).
- fit the new trunking in accordance with the instructions given before.

Catalytic converter: Removal - Refitting

K4J or K4M

Special tooling required	
Mot. 1495-01	22 mm socket for removal - refitting of oxygen sensors.

Tightening torques ▽	
oxygen sensor	**45 Nm**
manifold studs	**7 Nm**
nuts mounting the catalytic converter on the exhaust manifold	**21 Nm**
exhaust sleeve	**25 Nm**
exhaust manifold studs	**8 Nm**
exhaust sleeve	**25 Nm**

IMPORTANT

Catalytic converters contain ceramic fibres: these are contained within a closed unit, and cannot disperse. Cutting or drilling catalytic converters is prohibited.

REMOVAL

I - REMOVAL PREPARATION OPERATION

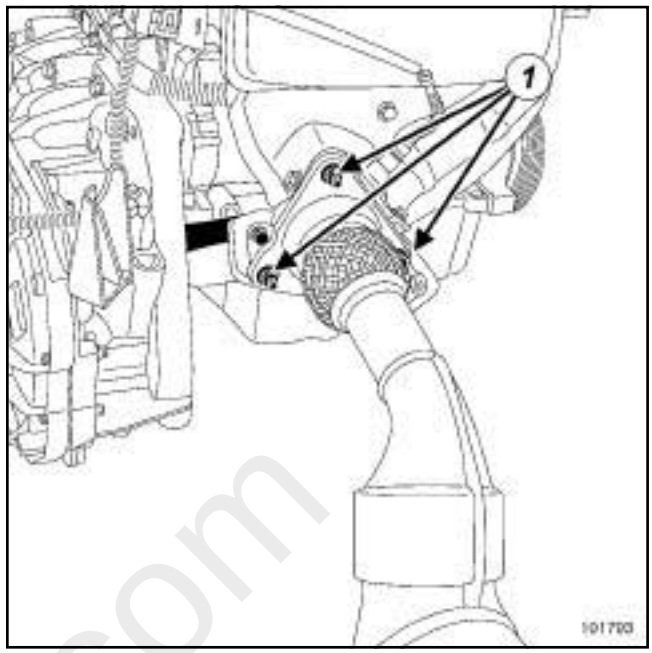
❏ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 392, 02, Lifting equipment).

❏ Remove the connector from the downstream oxygen sensor.

❏ Unclip the wiring harness from the downstream oxygen sensor.

❏ Cut the exhaust pipe (see **Exhaust: Parts and consumables for the repair**) and (see **19B**, **Exhaust**, **Exhaust: Precautions for the repair**, page **19B-17**) .

II - OPERATION FOR REMOVAL OF PART CONCERNED



101793

❏ Remove:

- the catalytic converter mounting nuts (**1**) from the exhaust manifold
- the exhaust catalytic converter,
- the downstream oxygen sensor of the catalytic converter using tool **(Mot. 1495-01)**.

REFITTING

I - REFITTING PREPARATIONS OPERATION

❏ Refit the oxygen sensor.

❏ Torque tighten the **oxygen sensor (45 Nm)**.

❏ Replace the exhaust flange seal.

II - REFITTING OPERATION FOR PART CONCERNED

❏ Torque tighten the **manifold studs (7 Nm)**.

❏ Fit:

- the catalytic converter,
- the catalytic converter sleeve (see **19B**, **Exhaust**, **Exhaust: Precautions for the repair**, page **19B-17**) .

❏ Torque tighten the **nuts mounting the catalytic converter on the exhaust manifold (21 Nm)**.

K4J or K4M

III - FINAL OPERATION

❏ Torque tighten:

- the **exhaust sleeve (25 Nm)** while supporting the exhaust pipe to ensure correct alignment,
- the **exhaust manifold studs (8 Nm)**,
- the **exhaust sleeve (25 Nm)** while supporting the exhaust pipe to ensure correct alignment.

❏ Connect the oxygen sensor connector.

❏ Make sure that all the exhaust pipe heat shields are in place and properly secured.

❏ Refit the engine undertray.

❏ Make sure that there is no contact with the underbody.

WARNING

Make sure:

- position the sleeve « bolt - tightening nut» assembly vertically with the nut facing downwards to prevent any risk of underbody contact,
- that you position the new component in a way that the cutting area marks are aligned,
- that the two marks are flush with the two ends of the sleeve,
- that an old sleeve is not reused.

K9K

Tightening torques ▽	
turbocharger output studs	**7 N.m**
catalytic converter mounting nuts on the turbocharger	**26 N.m**
bolts mounting the upstream strut on the engine	**44 N.m**
bolts mounting the downstream strut on the gearbox	**21 N.m**
bolts mounting the upstream strut on the catalytic converter	**26 N.m**
bolt mounting the downstream strut on the catalytic converter	**21 N.m**
exhaust clamp studs on the catalytic converter output	**7 N.m**
exhaust bracket nuts	**21 N.m**
exhaust pipe rubber mounting bush mountings on the body	**62 N.m**

IMPORTANT
Catalytic converters contain ceramic fibres; these are contained within a closed unit and cannot be dispersed. Drilling or cutting catalytic converters is prohibited.

REMOVAL

I - REMOVAL PREPARATION OPERATION

❏ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 392, 02, Lifting equipment).

❏ Disconnect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).

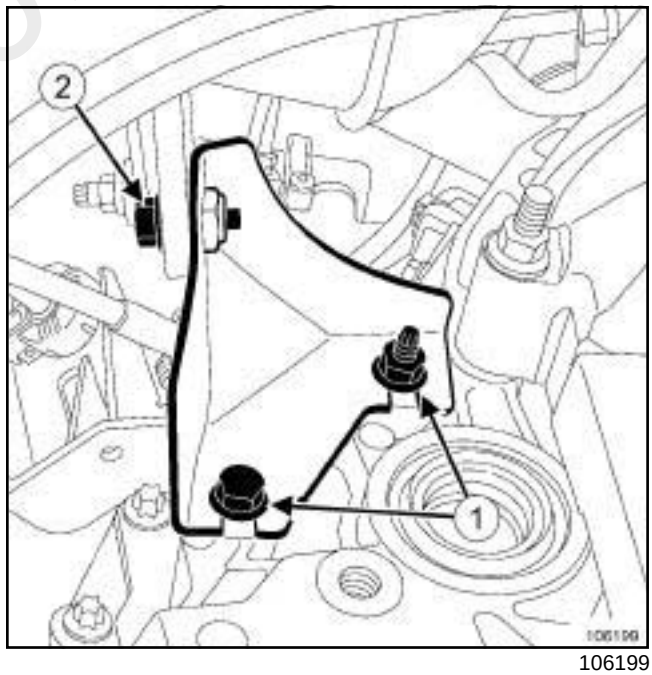
❏ Remove:

- the engine cover,
- the air inlet duct,
- the scuttle panel grille (see **Scuttle panel grille: Removal - Refitting**) (MR 393, 56A, Exterior equipment),
- the two shock absorber cup covers,
- the scoop under the scuttle panel grille (see **Scoop under the scuttle panel grille: Removal - Refitting**) (MR 393, 56A, Exterior equipment),
- the engine undertray.

❏ Remove:

- the engine tie-bar (see **19D**, **Engine mounting**, **Lower engine tie-bar: Removal - Refitting**, page **19D-13**) ,
- the wiring harness mountings between the catalytic converter and the exhaust pipe,
- the rubber bush mountings of the exhaust pipe on the bodywork.

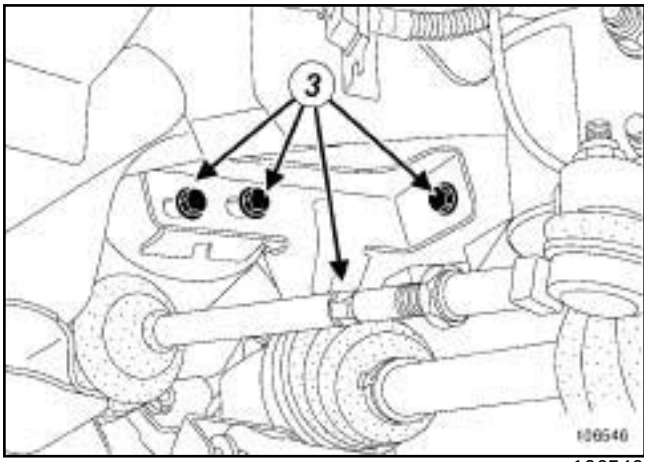
❏ Withdraw the exhaust pipe.



106199

❏ Remove:

- the downstream strut mountings (**1**) on the gearbox,
- the catalytic converter downstream strut mounting bolt (**2**) ,
- the downstream strut.

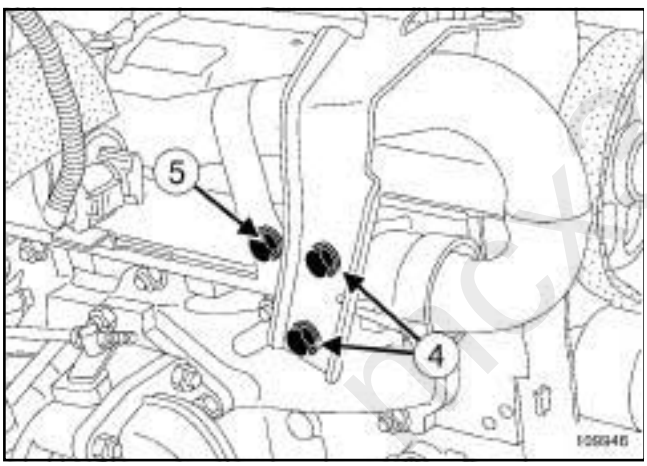


106546

❑ Remove:

- the upstream strut mountings (**3**) ,
- the upstream strut.

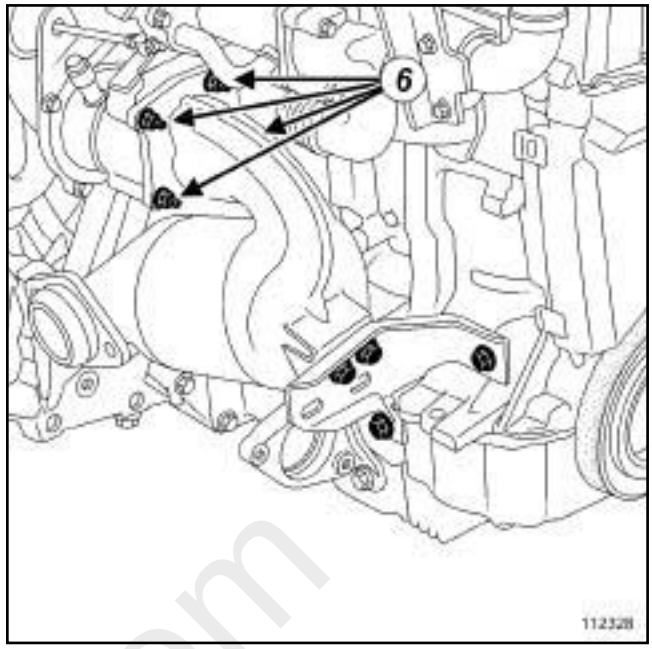
II - OPERATION FOR REMOVAL OF PART CONCERNED



109946

❑ Remove:

- the lifting eye mounting bolts (**4**) on the timing end,
- the lifting eye on the timing end,
- the mounting bolt (**5**) from the air inlet tube,
- the air inlet duct.



112328

❑ Remove:

- the bolts (**6**) mounting the catalytic converter to the turbocharger,
- the catalytic converter and its seal on the turbocharger,
- the sealing ring or the seal (depending on the version) then dispose of them in a waste bin.

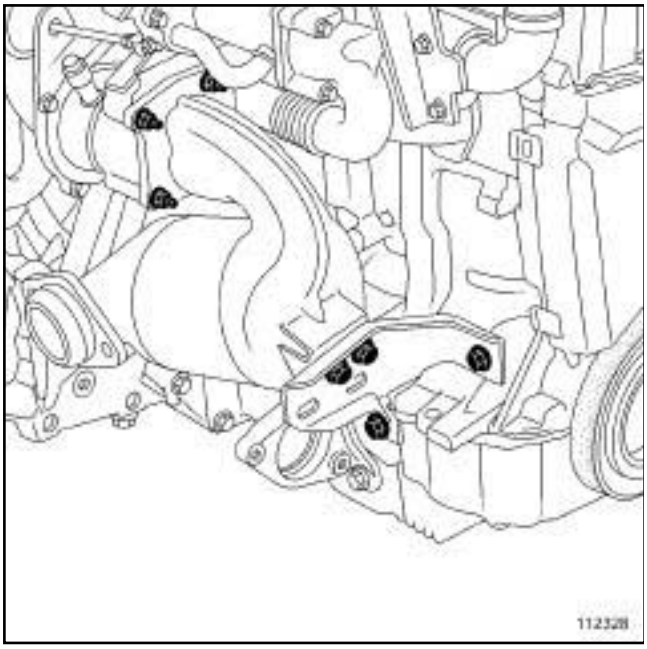
REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

❑ Clean the bearing faces of the turbocharger and catalytic converter using an abrasive pad (see **Vehicle: Parts and consumables for the repair**) .

❑ Degrease the bearing faces using surface cleaner and clean cloths (see **Vehicle: Parts and consumables for the repair**) .

K9K



112328

❏ In case of replacement, torque tighten the **turbocharger output studs (7 N.m)**.

❏ Fit the catalytic converter equipped with a new seal on the turbocharger.

❏ Pretighten in order:

- the upstream strut bolts on the engine,
- the downstream strut bolts on the gearbox,
- the upstream strut bolts on the catalytic converter,
- the downstream strut bolts on the catalytic converter,
- the catalytic converter/turbocharger mounting nuts.

❏ Tighten to torque and in order:

- the **catalytic converter mounting nuts on the turbocharger (26 N.m)**,
- the **bolts mounting the upstream strut on the engine (44 N.m)**,
- the **bolts mounting the downstream strut on the gearbox (21 N.m)**,
- the **bolts mounting the upstream strut on the catalytic converter (26 N.m)**,
- the **bolt mounting the downstream strut on the catalytic converter (21 N.m)**.

❏ Refit:

- the air inlet duct,
- the lifting eye,
- the exhaust pipe,
- the rubber bush mountings of the exhaust pipe on the bodywork.

WARNING

Make sure there is no contact between the catalytic converter and the turbocharger oil return pipe.

❏

WARNING

Always replace the sealing ring between the catalytic converter and the exhaust pipe with a new component.

❏ Refit a new sealing ring or a new seal (depending on the version).

❏ Torque tighten:

- in the event of replacement, the **exhaust clamp studs on the catalytic converter output (7 N.m)**,
- the **exhaust bracket nuts (21 N.m)**.

II - FINAL OPERATION

❏ Torque tighten the **exhaust pipe rubber mounting bush mountings on the body (62 N.m)**.

❏ Make sure that there is no contact with the underbody.

❏ Refit the engine tie-bar (see **19D**, **Engine mounting**, **Lower engine tie-bar: Removal - Refitting**, page **19D-13**) .

WARNING

Check:

- the exhaust pipe is not touching the body,
- all the heat shields are present.

❏ Refit:

- the engine undertray,
- the scoop under the scuttle panel grille (see **Scoop under the scuttle panel grille: Removal - Refitting**) (MR 393, 56A, Exterior equipment),
- the two shock absorber cup covers,

K9K

- the scuttle panel grille (see **Scuttle panel grille: Removal - Refitting**) (MR 393, 56A, Exterior equipment),
- the air inlet duct,
- the engine cover.

❑ Connect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).

D4F, and 740 or 764

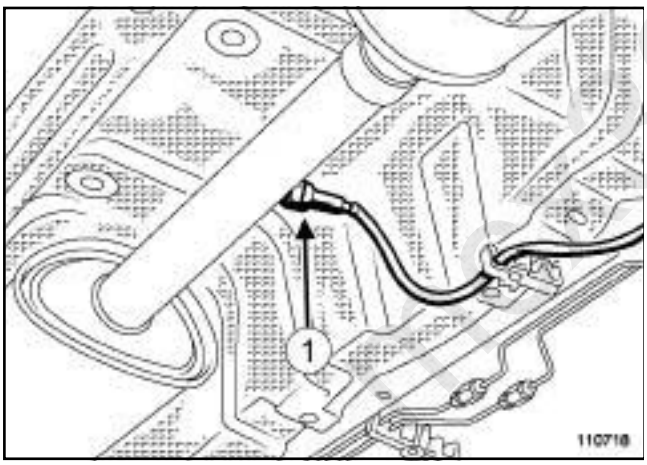
Special tooling required	
Mot. 1495-01	22 mm socket for removal - refitting of oxygen sensors.

Tightening torques ▽	
manifold output bracket studs	**7 Nm**
exhaust bracket mounting bolts	**25 Nm**
oxygen sensor	**45 Nm**

REMOVAL

I - REMOVAL PREPARATION OPERATION

❑ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 392, 02, Lifting equipment).



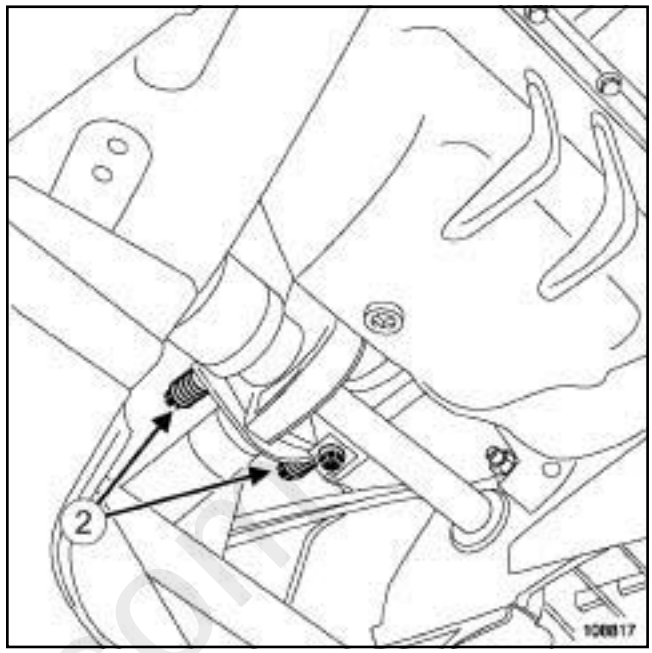
110718

❑ Remove:

- the engine undertray mounting bolts,
- the engine undertray,
- the downstream oxygen sensor (**1**) using the **(Mot. 1495-01)**.

❑ Cut the exhaust pipe (see **Exhaust: Parts and consumables for the repair**) and (see **19B**, **Exhaust**, **Exhaust: Precautions for the repair**, page **19B-17**) .

II - OPERATION FOR REMOVAL OF PART CONCERNED



108817

❑ Remove:

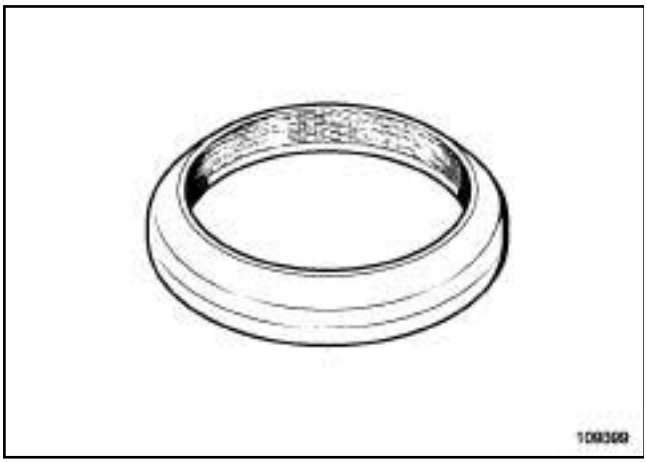
- the exhaust clamp mounting bolts (**2**) ,
- the catalytic converter.

IMPORTANT
Catalytic converters contain ceramic fibres; these are contained within a closed unit and cannot be dispersed. Drilling or cutting catalytic converters is prohibited.

D4F, and 740 or 764

REFITTING

I - REFITTING PREPARATIONS OPERATION



109399

❑

WARNING
It is essential to replace the sealing ring between the exhaust manifold and the catalytic converter.

❑ Position the after sales sleeve on the catalytic converter (see **19B**, **Exhaust**, **Exhaust: Precautions for the repair**, page **19B-17**) .

II - REFITTING OPERATION FOR PART CONCERNED

❑ When replacing, torque tighten the **manifold output bracket studs (7 Nm)**.

❑ Refit the catalytic converter.

❑ Torque tighten the **exhaust bracket mounting bolts (25 Nm)**.

❑ Torque tighten the after-sales sleeve (see **19B**, **Exhaust**, **Exhaust: Precautions for the repair**, page **19B-17**) .

III - FINAL OPERATION.

❑ Torque tighten the **oxygen sensor (45 Nm)** using the **(Mot. 1495-01)**.

❑ Refit:

- the engine undertray,
- the engine undertray mounting bolts,

❑ Check:

- that there is no contact with the underbody,
- all the exhaust pipe heat shields are in place and properly attached.

WARNING
Any damaged heat shields must be replaced.

M4R

Tightening torques ▽	
exhaust flange mounting bolts	**21 Nm**

REMOVAL

I - REMOVAL PREPARATION OPERATION

❏ Put the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) .

❏ Remove the engine cover.

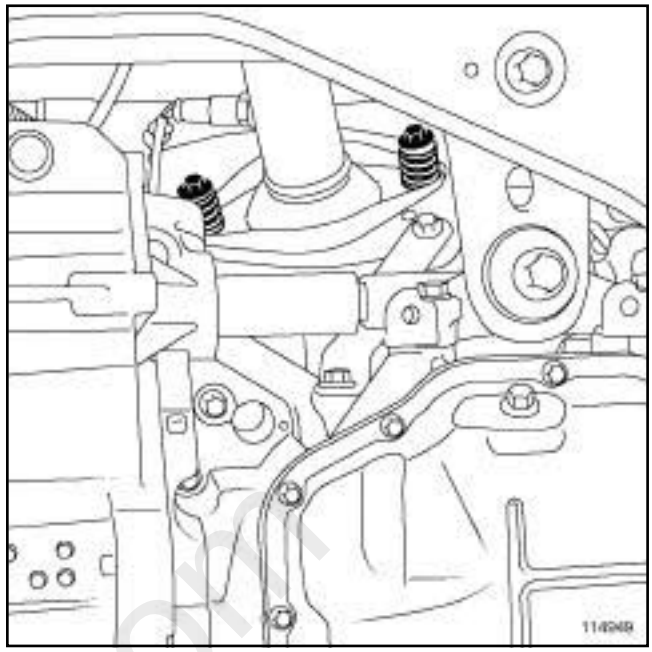
❏ Disconnect the battery (see **Battery: Removal - Refitting**) .

❏ Remove:

- the engine undertray,
- the upstream and downstream oxygen sensors (see **17B**, **Petrol injection**, **Oxygen sensors: Removal - Refitting**, page **17B-19**) .

❏ Cut the exhaust pipe in the area to be cut number 1 (see **19B**, **Exhaust**, **Exhaust: Precautions for the repair**, page **19B-17**) and (see **Exhaust: Parts and consumables for the repair**) .

II - REMOVAL OF PART CONCERNED



114949

❏ Remove:

- the exhaust clamp mounting bolts,
- the catalytic converter,
- the exhaust flange sealing ring.

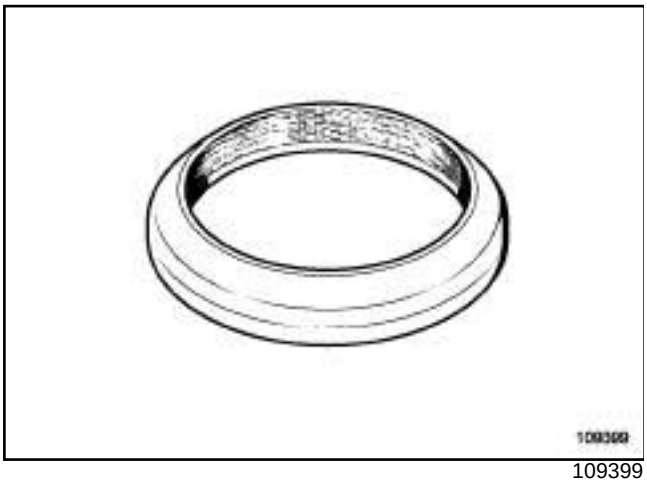
IMPORTANT

Catalytic converters contain ceramic fibres; these are contained within a closed unit, and cannot disperse. Cutting or drilling catalytic converters is prohibited.

M4R

REFITTING

I - REFITTING PREPARATION OPERATION



109399

❏ Always replace the exhaust flange sealing ring.

II - REFITTING THE PART CONCERNED

❏ Position the after sales sleeve on the catalytic converter (see **19B**, **Exhaust**, **Exhaust: Precautions for the repair**, page **19B-17**) .

❏ Torque tighten the **exhaust flange mounting bolts (21 Nm)**.

III - FINAL OPERATION

❏ Refit:

- the upstream and downstream oxygen sensors (see **17B**, **Petrol injection**, **Oxygen sensors: Removal - Refitting**, page **17B-19**) ,
- the engine undertray.

❏ Connect the battery (see **Battery: Removal - Refitting**) .

❏ Refit the engine cover.

F4R

The emission control assembly is comprised of two catalytic converters on the vehicle:

- one integrated into the exhaust manifold,

- one integrated into the exhaust pipe.

The method below deals with the operating procedure on the catalytic converter integrated into the exhaust pipe.

Note:

The catalytic converter integrated into the exhaust manifold cannot be separated from the latter. When removing - refitting the catalytic converter, the catalytic converter - exhaust manifold assembly must be removed (see **12A**, **Fuel mixture**, **Exhaust manifold: Removal - Refitting**, page **12A-75**) . When replacing the catalytic converter, the catalytic converter - exhaust manifold assembly must be replaced.

REMOVAL

I - REMOVAL PREPARATION OPERATION

❏ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 392, 02, Lifting equipment).

❏ Disconnect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).

II - OPERATION FOR REMOVAL OF PART CONCERNED

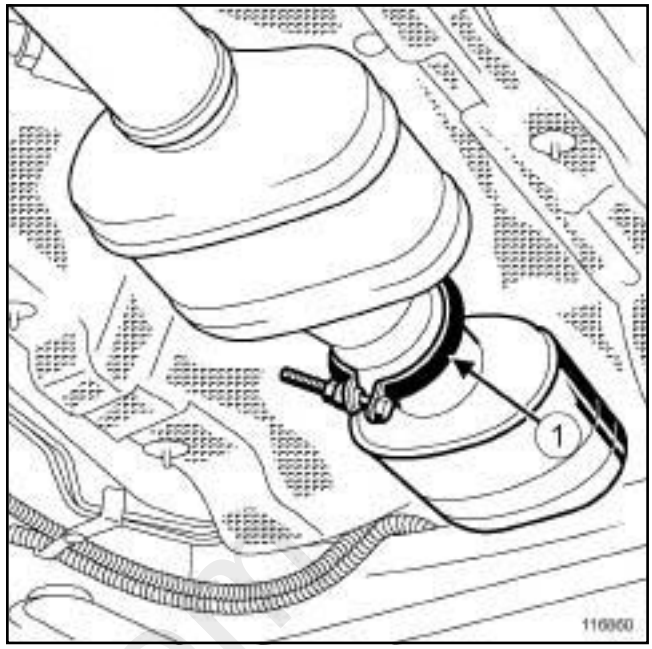
1 - Removing the catalytic converter integrated into the exhaust manifold

❏ Remove the exhaust manifold (see **12A**, **Fuel mixture**, **Exhaust manifold: Removal - Refitting**, page **12A-75**) .

2 - Removing the catalytic converter integrated into the exhaust pipe

❏ Remove the downstream oxygen sensor (see **17B**, **Petrol injection**, **Oxygen sensors: Removal - Refitting**, page **17B-19**) .

❏ Cut the exhaust system at the cutting area **ZC1** for this purpose (see **Exhaust: Parts and consumables for the repair**) and (see **19B**, **Exhaust**, **Exhaust: Precautions for the repair**, page **19B-17**) .



116860

❏ Remove:

- the exhaust pipe clamp (**1**) ,

- the catalytic converter integrated into the exhaust pipe.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

1 - Refitting the catalytic converter integrated into the exhaust manifold

❏ Refit the exhaust manifold (see **12A**, **Fuel mixture**, **Exhaust manifold: Removal - Refitting**, page **12A-75**) .

2 - Refitting the catalytic converter integrated into the exhaust pipe

❏ Fit the catalytic converter integrated into the exhaust pipe.

❏ Tighten the new exhaust pipe clamp by several turns.

❏ Fit the new After-Sales sleeve following the instructions supplied (see **19B**, **Exhaust**, **Exhaust: Precautions for the repair**, page **19B-17**) .

❏ Remove the downstream oxygen sensor (see **17B**, **Petrol injection**, **Oxygen sensors: Removal - Refitting**, page **17B-19**) .

F4R

II - FINAL OPERATION

❏ Make sure there is no contact with the underbody.

❏ Connect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).

❏ Start the engine and check that there are no leaks: deal with any problems as necessary.

Catalytic converter: Removal - Refitting

D4F, and 784

Special tooling required	
Mot. 1495-01	22 mm socket for removal - refitting of oxygen sensors.

Tightening torques ▽	
upstream and downstream oxygen sensors	**45 Nm**
primary strut bolts on the cylinder block	**25 Nm**
primary strut bolt on the gearbox	**44 Nm**
catalytic converter nuts on the turbocharger (initial torque)	**20 Nm**
catalytic converter nuts on the turbocharger	**30 Nm**
primary strut bolts on the catalytic converter (initial torque)	**20 Nm**
primary strut bolts on the catalytic converter	**30 Nm**
catalytic converter upstream strut bolts on the catalytic converter	**21 Nm**
catalytic converter upstream strut bolts on the cylinder block	**21 Nm**
turbocharger strut nut	**21 Nm**
turbocharger strut bolt	**21 Nm**
turbocharger heat shield bolts	**8 Nm**
front right-hand wheel driveshaft relay bearing nuts	**44 Nm**
exhaust bracket bolts at the catalytic converter outlet	**9 Nm**

REMOVAL

I - REMOVAL PREPARATION OPERATION

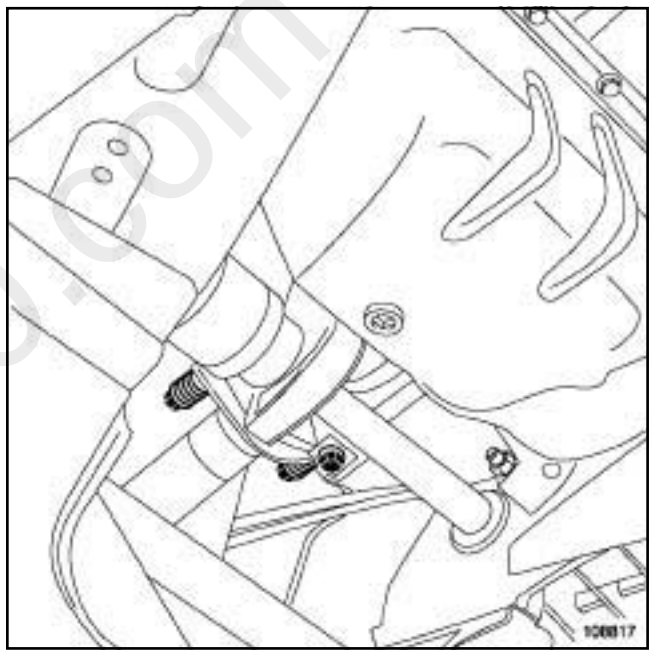
❑ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 392, 02A, Lifting equipment).

❑ Disconnect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).

❑ Remove:

- the engine cover,
- the engine undertray.

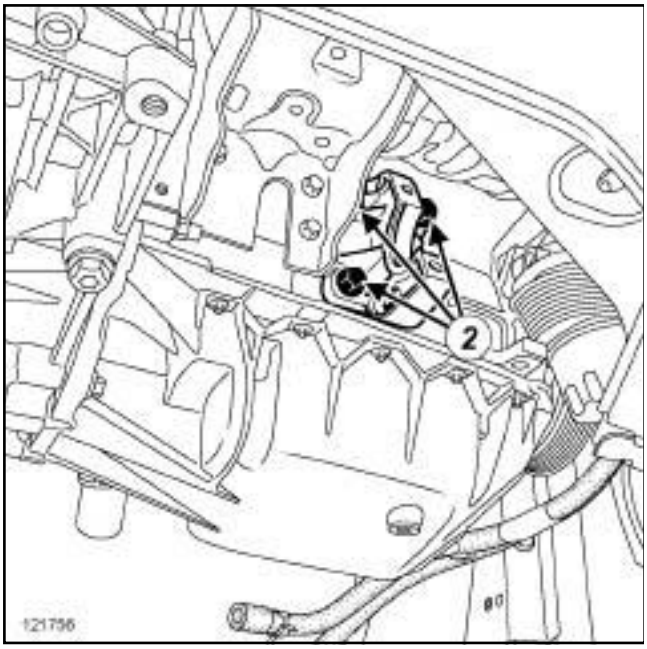
❑ Drain the gearbox (see **Manual gearbox oils: Draining - Filling**) (MR 392, 21A, Manual gearbox).



108817

❑ Remove the nuts from the exhaust bracket at the catalytic converter outlet.

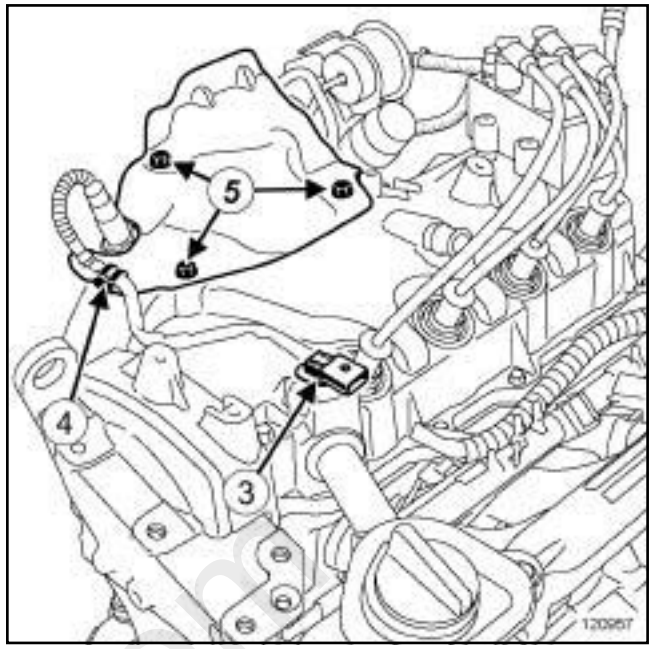
D4F, and 784



121756

❏ Remove:

- the front right-hand hand wheel driveshaft (see **Front right-hand driveshaft: Removal - Refitting**) (MR 392, 29A, Driveshafts),
- the front right-hand wheel driveshaft relay bearing nuts (**2**) ,
- the front right-hand wheel driveshaft relay bearing.



120957

❏ Disconnect the upstream oxygen sensor connector (**3**) .

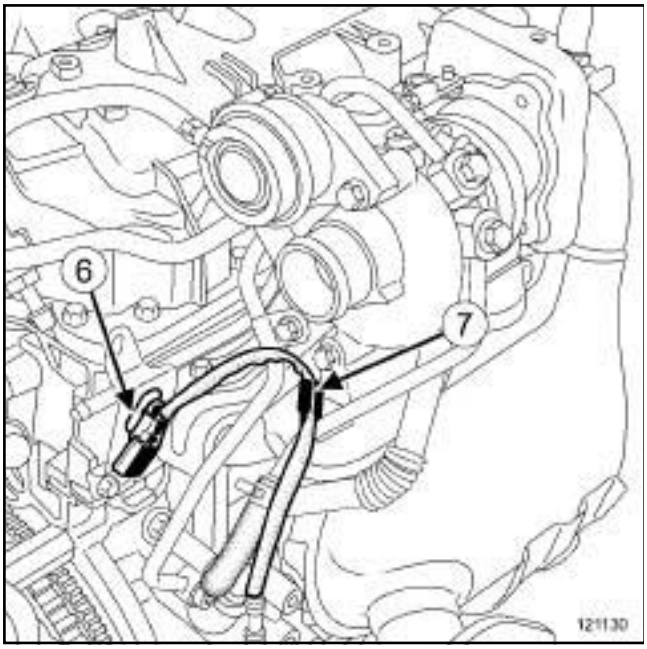
❏ Unclip the upstream oxygen sensor connector.

❏ Detach the upstream oxygen sensor wiring harness at (**4**) .

❏ Remove:

- the bolts (**5**) from the turbocharger heat shield,
- the turbocharger heat shield.

D4F, and 784

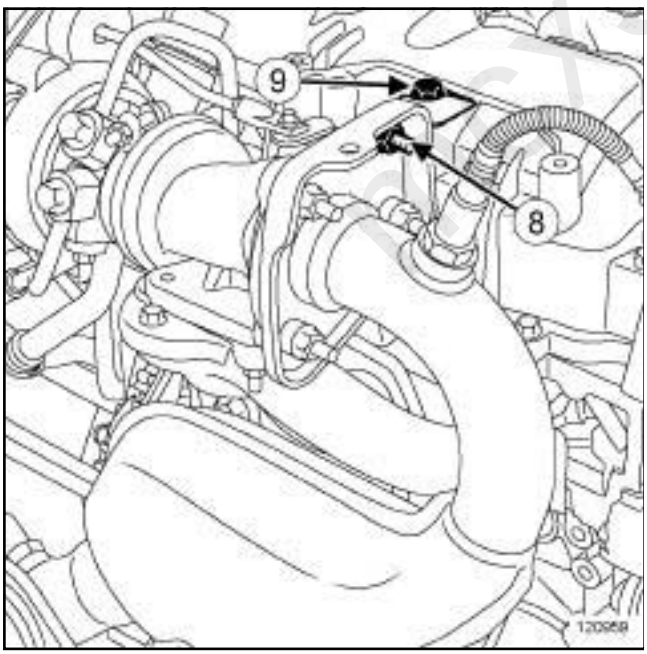


121130

❏ Disconnect the downstream oxygen sensor connector (**6**) .

❏ Unclip the downstream oxygen sensor connector.

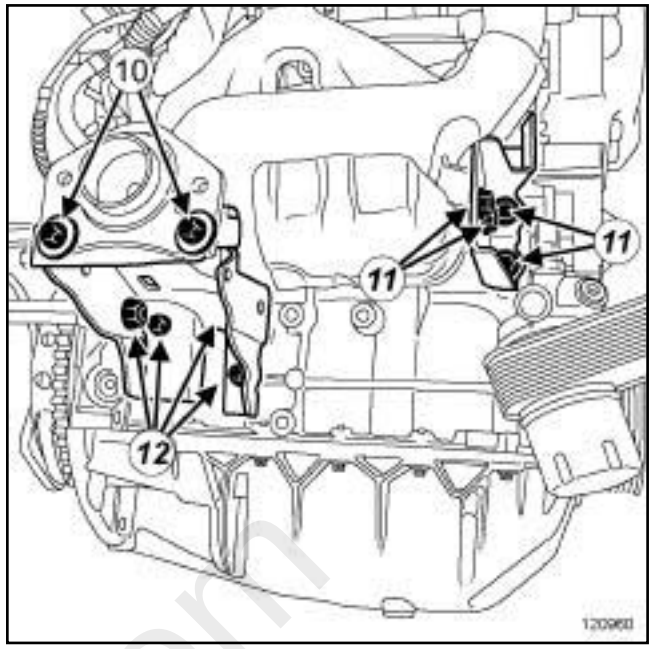
❏ Detach the downstream oxygen sensor wiring harness at (**7**) .



120959

❏ Remove:

- the nut (**8**) from the turbocharger strut,
- the bolt (**9**) from the turbocharger strut,
- the turbocharger strut.



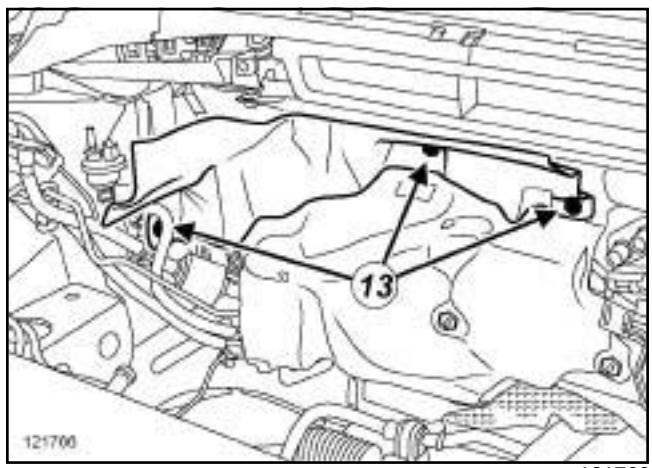
120960

❏ Disconnect the oil pressure sensor connector.

❏ Undo the bolts (**10**) on the catalytic converter primary strut.

❏ Remove:

- the catalytic converter upstream strut bolts (**11**) ,
- the catalytic converter upstream stay,
- the bolts (**12**) on the cylinder block primary strut,
- the primary strut from the cylinder block.



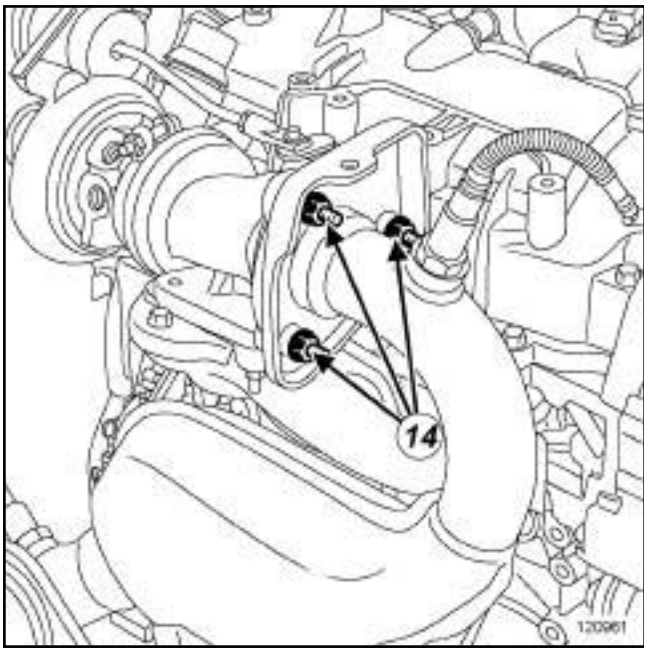
121766

❏ remove:

- the clips (**13**) from the upper heat shield,
- the upper heat shield.

D4F, and 784

II - OPERATION FOR REMOVAL OF PART CONCERNED



120961

❑ Remove:

- the nuts (**14**) mounting the catalytic converter on the turbocharger and the spacers,
- the catalytic converter,
- the catalytic converter seal on the turbocharger.

IMPORTANT
Catalytic converters contain ceramic fibres; these are contained within a closed unit, and cannot disperse. Cutting or drilling catalytic converters is prohibited.

❑ When replacing the catalytic converter, remove the upstream and downstream oxygen sensors on the workbench using the **(Mot. 1495-01)**.

REFITTING

I - REFITTING PREPARATIONS OPERATION

❑ When replacing the catalytic converter, refit the upstream and downstream oxygen sensors on the workbench.

❑ Torque tighten the **upstream and downstream oxygen sensors (45 Nm)** using the **(Mot. 1495-01)**.

❑ Always replace:

- the catalytic converter seal,
- the catalytic converter nuts on the turbocharger,

❑ Use abrasive pads to clean the bearing faces of:

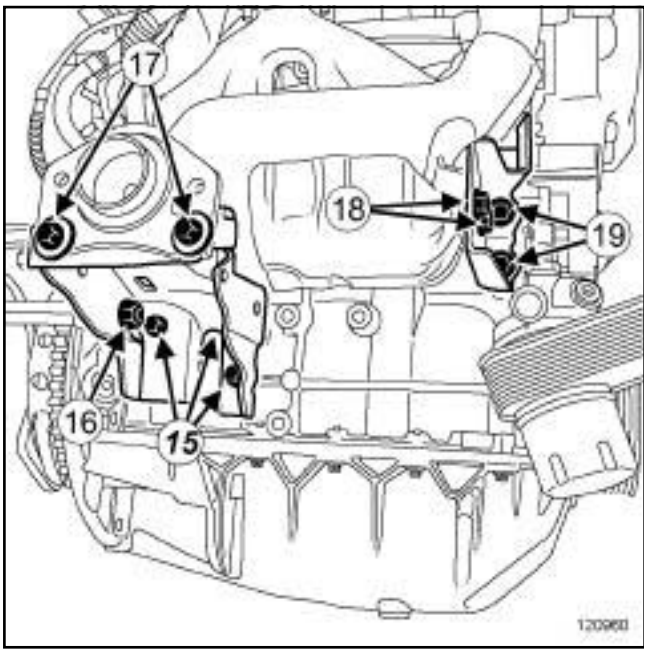
- the turbocharger,
- the catalytic converter.

❑ Degrease the pressure faces using **SURFACE CLEANER** (see **Vehicle: Parts and consumables for the repair**) (MR 392, 04B, Consumables - Products) and a clean cloth:

- the turbocharger,
- the catalytic converter.

D4F, and 784

II - REFITTING OPERATION FOR PART CONCERNED



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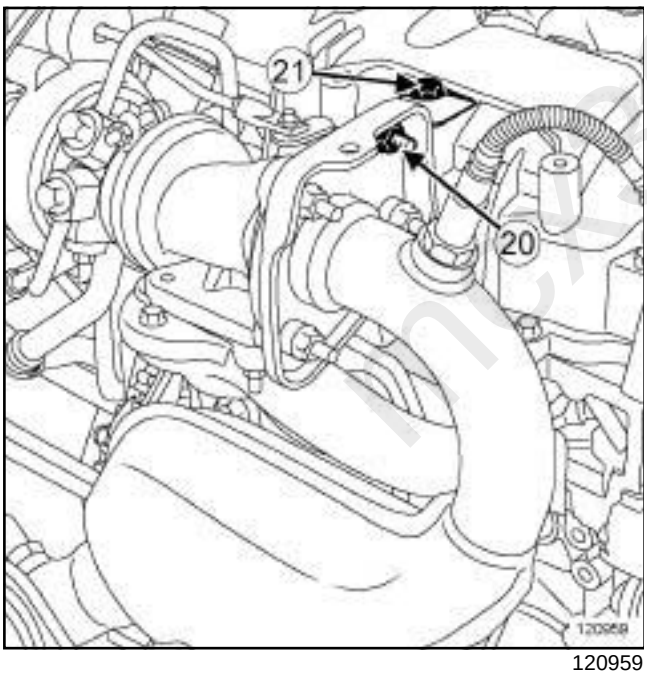

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❑ Refit:

- the catalytic converter seal on the turbocharger,
- the catalytic converter,
- the new nuts with the catalytic converter spacers on the turbocharger,
- the catalytic converter primary strut,
- the bolts (**15**) on the cylinder block primary strut,
- the primary strut bolt (**16**) on the gearbox,
- the catalytic converter upstream stay,
- the catalytic converter upstream strut bolts (**18**) and (**19**) ,
- the turbocharger strut.
- the bolt (**21**) from the turbocharger strut,
- the turbocharger strut nut (**20**) .

❑ Torque tighten:

- the **primary strut bolts on the cylinder block (25 Nm)** by locking the strut on the gearbox lug at (**15**) ,
- the **primary strut bolt on the gearbox (44 Nm)** at (**16**) ,
- the **catalytic converter nuts on the turbocharger (initial torque) (20 Nm)**,
- the **catalytic converter nuts on the turbocharger (30 Nm)**,
- the **primary strut bolts on the catalytic converter (initial torque) (20 Nm)** at (**17**) ,
- the **primary strut bolts on the catalytic converter (30 Nm)**,
- the **catalytic converter upstream strut bolts on the catalytic converter (21 Nm)** at (**18**) ,
- the **catalytic converter upstream strut bolts on the cylinder block (21 Nm)** at (**19**) ,
- the **turbocharger strut nut (21 Nm)** at (**20**) ,
- the **turbocharger strut bolt (21 Nm)** at (**21**) .

III - FINAL OPERATION.

❑ Refit:

- the upper heat shield,
- the clips on the upper heat shield.

❑ Connect the oil pressure sensor connector.

❑ Attach the downstream oxygen sensor wiring harness.

❑ Fit the downstream oxygen sensor connector.

❑ Connect the downstream oxygen sensor connector.

❑ Refit:

- the turbocharger heat shield,
- the turbocharger heat shield bolts.

❑ Torque tighten the **turbocharger heat shield bolts (8 Nm)**.

❑ Attach the upstream oxygen sensor wiring harness.

❑ Fit the upstream oxygen sensor connector.

❑ Connect the upstream oxygen sensor connector.