

FUEL FEED SYSTEM

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ENGINE MANAGEMENT SYSTEM

Foreword

The Marea-Marea Weekend 1998 20v is equipped with a 5 cylinder in line engine with 20 valves, 1998 cc, twin overhead camshaft and a Bosch ME3.1 integrated electronic injection/ignition system.

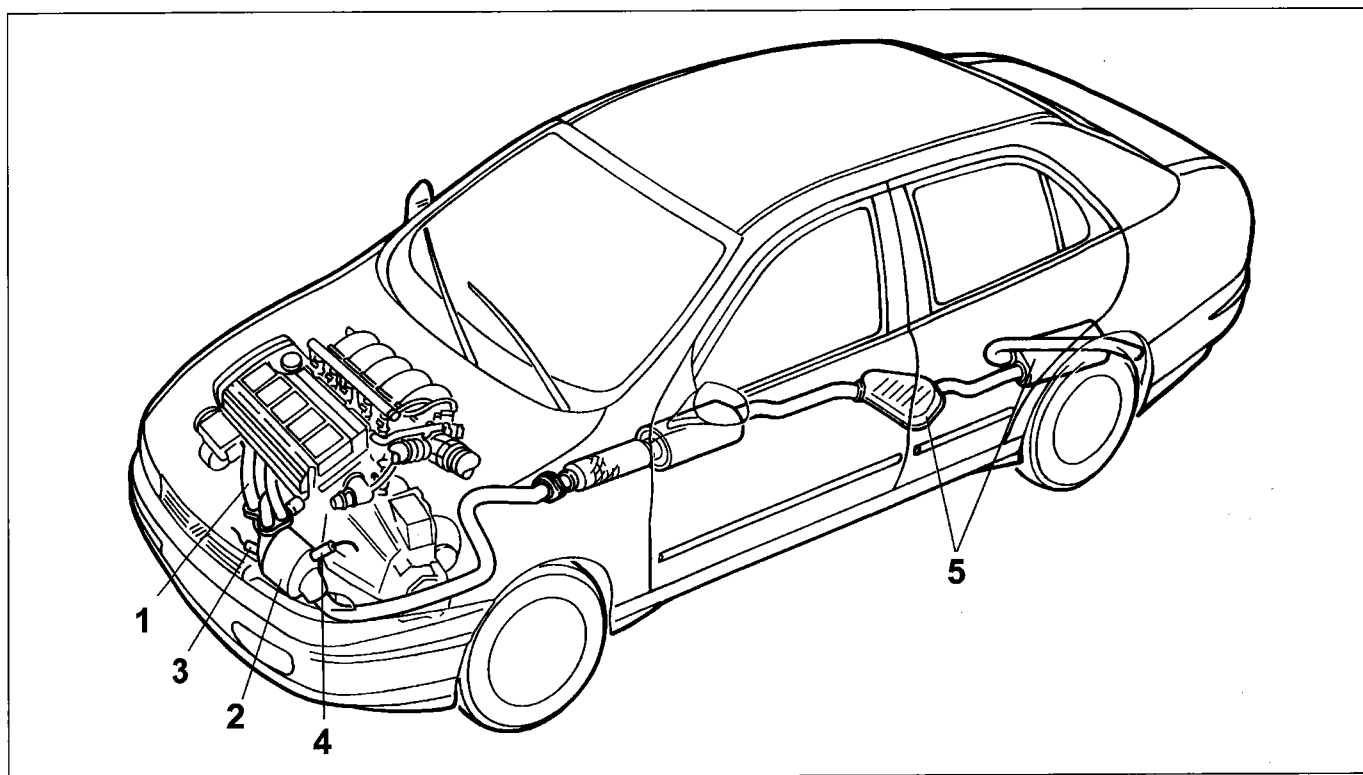
The fuel system differs from the one described for the 1998 20v "99 range" version through the addition of several variants to make it compatible with the EEC Stage 3 EOBD regulations.

The main modifications to the system can be summarized as follows:

- Catalytic converter near the exhaust manifold to take maximum advantage of the heat of the gases.
- Two Lambda sensors, one upstream (front) and one downstream (rear) which check the quality of the exhaust gases and the operation of the catalyzer.
- Adoption of an accelerometre sensor on the right shock absorber turret, used to distinguish between engine torque variations due to the unevenness of the road surface and those due to failed ignition in the combustion chamber (misfire).
- Adoption of a timing sensor on the inlet side timing pulley.
- Multi-purpose valve on the tank to prevent leaks.
- Adoption of rapid attachment connectors for the anti-evaporation system pipes.
- Cap on the fuel filler with an attachment cable.

For further information on the fuel system, refer to publication 507137.

DIAGRAM SHOWING ENGINE EXHAUST ASSEMBLY



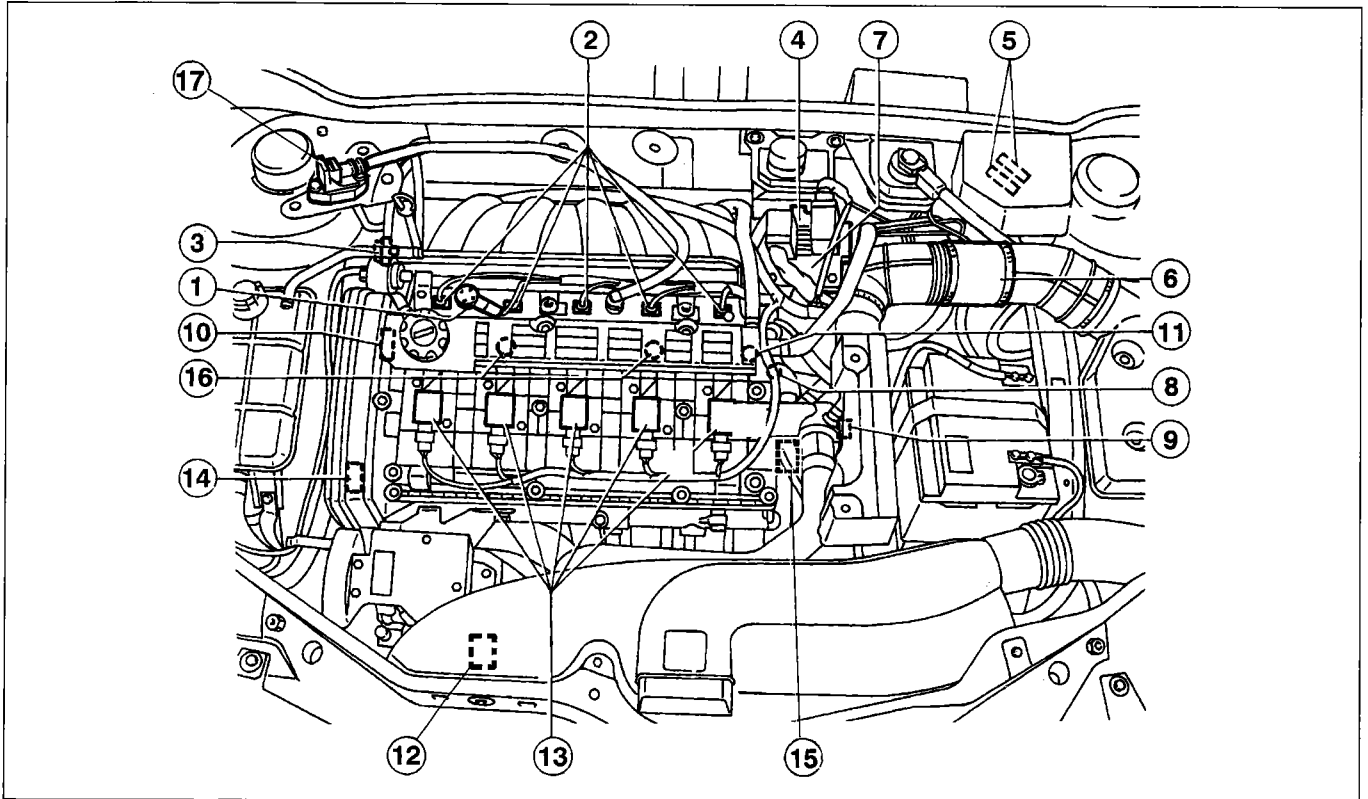
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Key

1. Exhaust manifold
2. Catalytic converter
3. Front Lambda sensor
4. Rear Lambda sensor
5. Silencers

10.

LOCATION OF INJECTION/IGNITION SYSTEM COMPONENTS



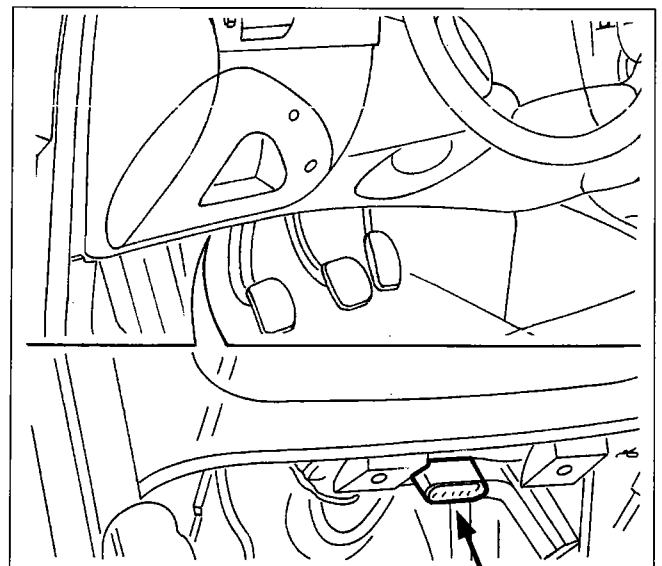
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Key

- | | |
|---|---|
| <ul style="list-style-type: none"> 1. Variable valve timing control solenoid 2. Injectors 3. Fuel vapour cut-out solenoid valve 4. Injection/ignition control unit 5. General system protective fuse 6. Flow meter/air temperature sensor 7. Motorized throttle body 8. Engine coolant temperature sensor | <ul style="list-style-type: none"> 9. Vehicle speed sensor 10. Variable geometry manifold actuator solenoid valve 11. RPM sensor 12. Front Lambda sensor connector 13. Ignition coil 14. Timing sensor 15. Rear Lambda sensor connector 16. Detonation sensors 17. Accelerometer |
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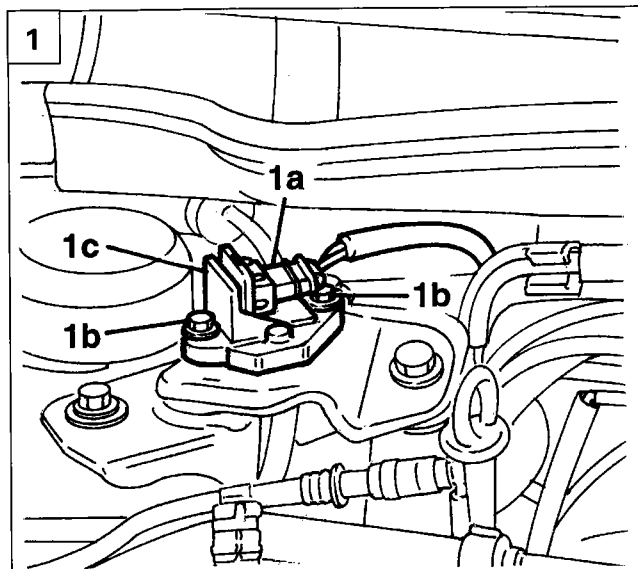
LOCATION OF DIAGNOSTIC SOCKET

The diagnostic socket for the analysis of the engine management system is located under the junction unit in the dashboard. This socket also makes a connection with the diagnostic equipment (Examiner or other instruments) for the other electronic control units on the vehicle. It is a "standardized" 16-way diagnostic socket which can be connected to the diagnostic equipment using the "MPX97" adaptor.



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REMOVING-REFITTING ACCELEROMETER

Removing

- Disconnect the negative battery terminal.
- 1. Disconnect the electrical connector (1a), undo the fixing bolts (1b) and remove the device (1c).

Refitting

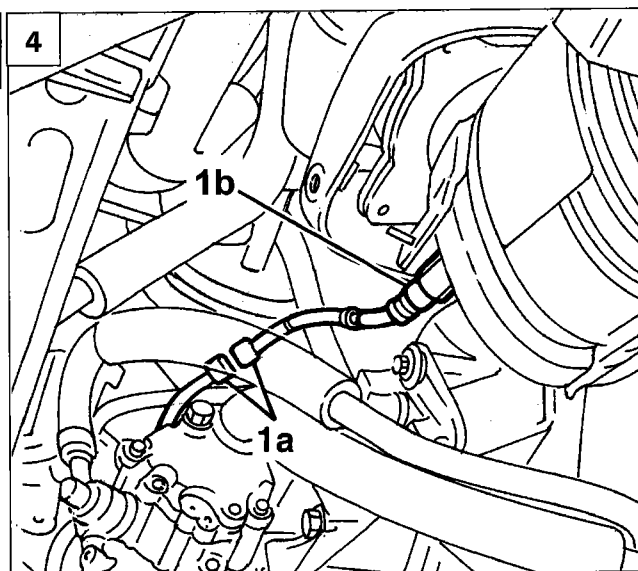
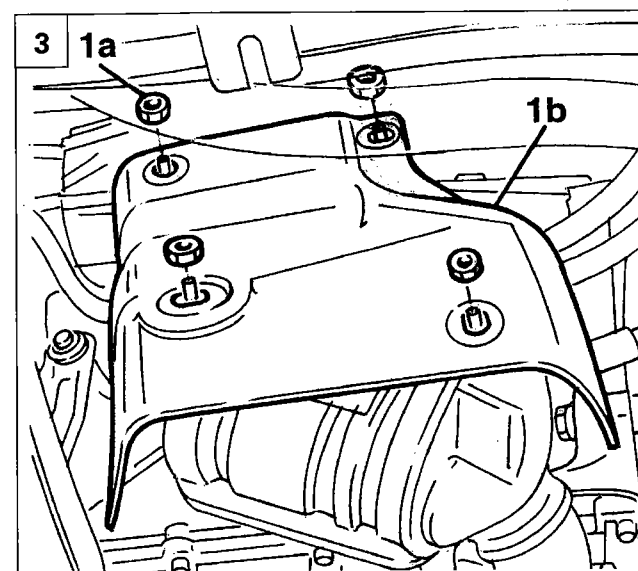
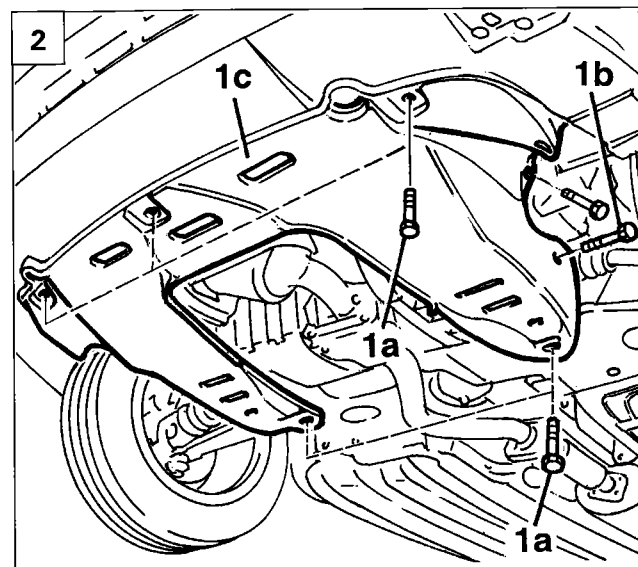
- Reverse the order of the operations carried out for the removal.



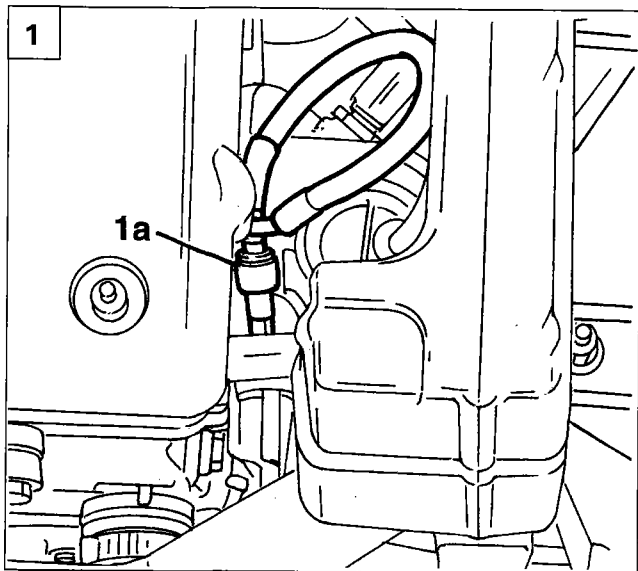
REMOVING-REFITTING FRONT LAMBDA SENSOR

Removing

- Position the vehicle on a lift.
- Disconnect the negative battery terminal.
- Raise the lift.
- 2. Undo the lower fixing bolts (1a) and the side fixing bolts (1b) and remove the shield (1c) under the engine.
- 3. Undo the fixing nuts (1a) and remove the lower section (1b) of the heat shield.
- 4. Disconnect the electrical connector (1a) and undo the front Lambda sensor (1b).



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- Release the electrical wiring for the front Lambda sensor from the retaining bands and remove the sensor.

Refitting

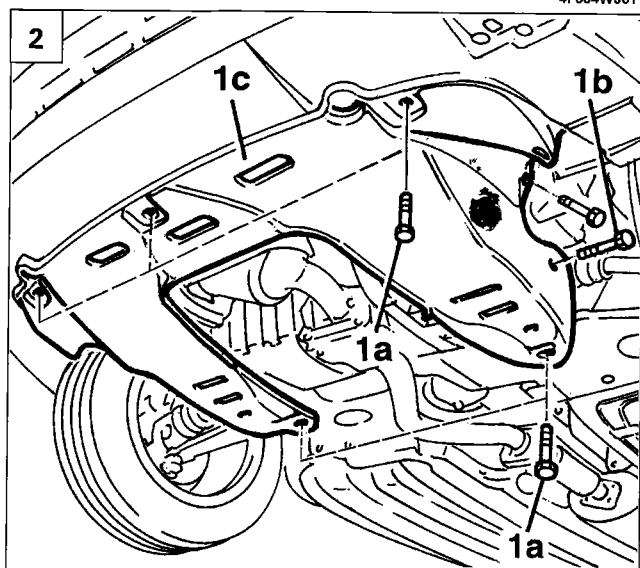
NOTE Apply special grease (e.g. Bosch VS 14016- FT) to the threaded part of the sensor

- Place the Lambda sensor in position and tighten to torque.



Lambda sensor : 4.5 daNm

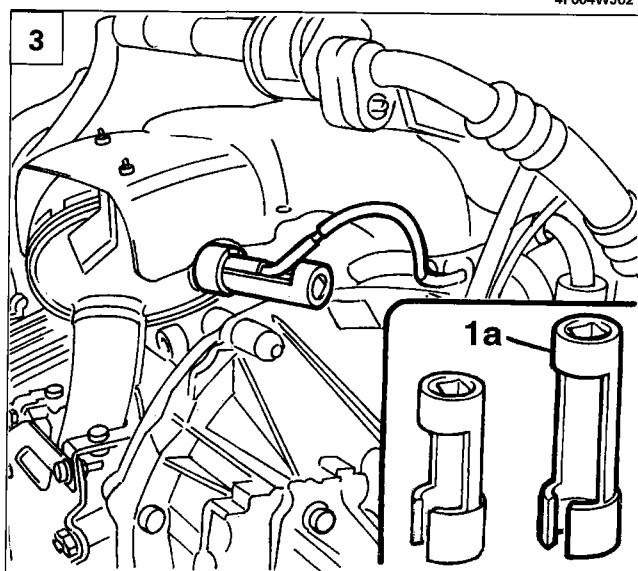
- Reverse the order of the operations described for the removal.



REMOVING-REFITTING REAR LAMBDA SENSOR

Removing

- Position the vehicle on a lift.
 - Disconnect the negative battery terminal.
1. Disconnect the electrical connector (1a) and release the electrical wiring from the retaining bands.
- Raise the lift.
2. Undo the lower fixing bolts (1a) and the side fixing bolts (1b) and remove the shield (1c) under the engine.



3. Use tool USAG 875 (1a), shown in the diagram or a similar tool to undo the rear Lambda sensor.

Refitting

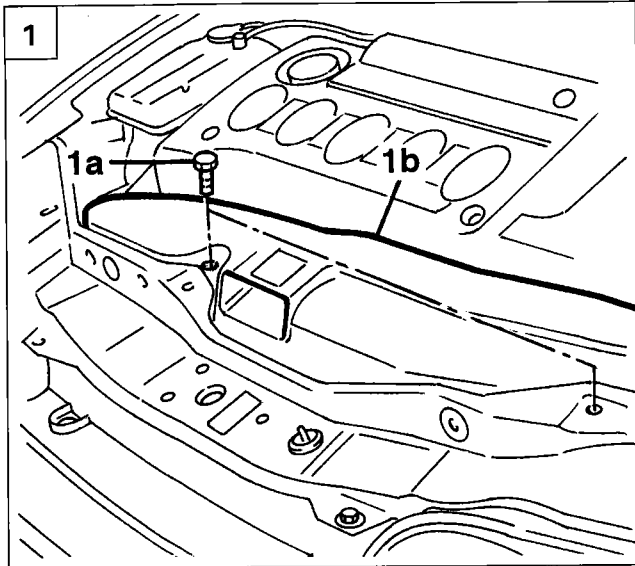
NOTE Apply special grease (e.g. Bosch VS 14016- FT) to the threaded part of the sensor.

- Place the Lambda sensor in position and tighten to torque.



Lambda sensor : 4.5 daNm

- Reverse the order of the operations carried out for the removal.



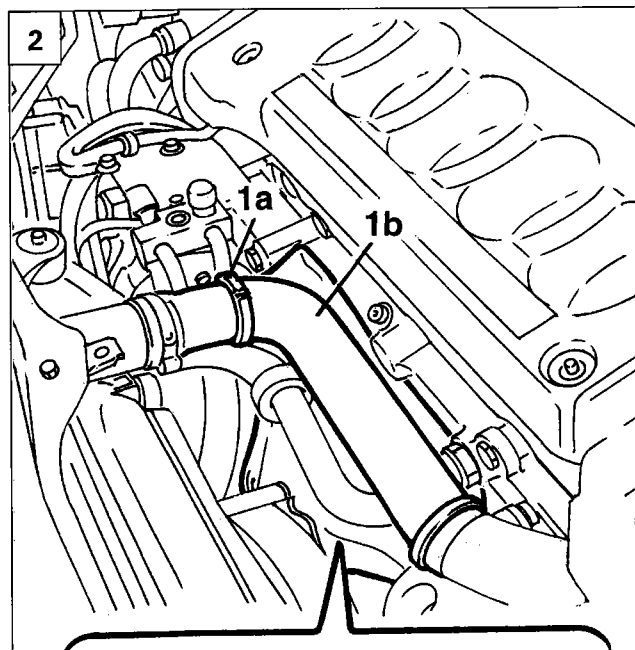
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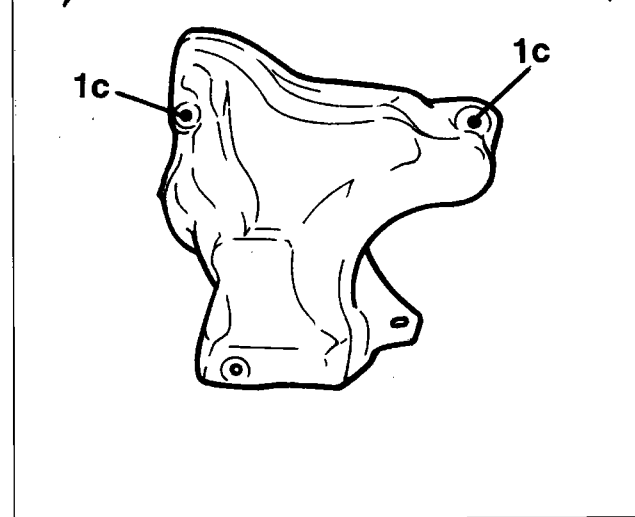
REMOVING-REFITTING HEAT SHIELD

Removing

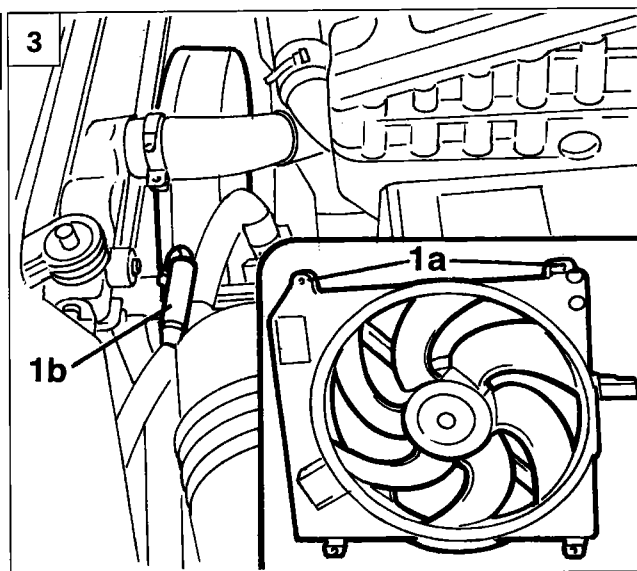
- Position the vehicle on a lift.
 - Disconnect the negative battery terminal.
1. Undo the fixing bolts (1a) and remove the air duct (1b).



2. Open the retaining band (1a) and place the engine coolant return pipe to the radiator (1b) at the side in order to undo the bolts (1c) fixing the upper section of the heat shield.
3. Undo the upper bolts (1a) fixing the fan and disconnect the electrical connector (1b).

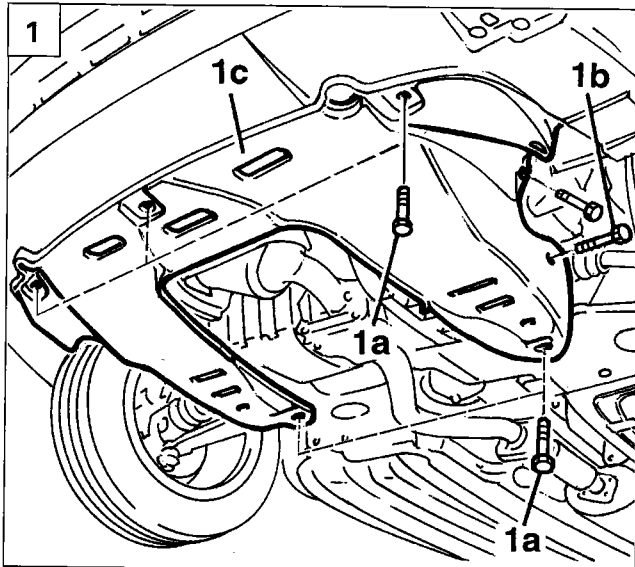


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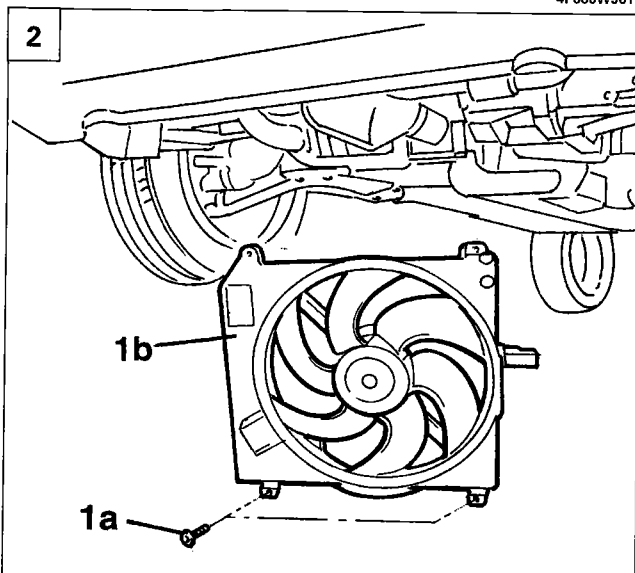


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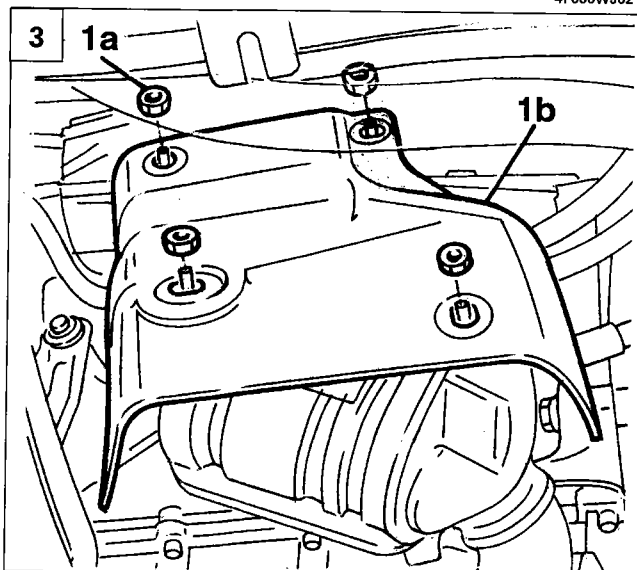
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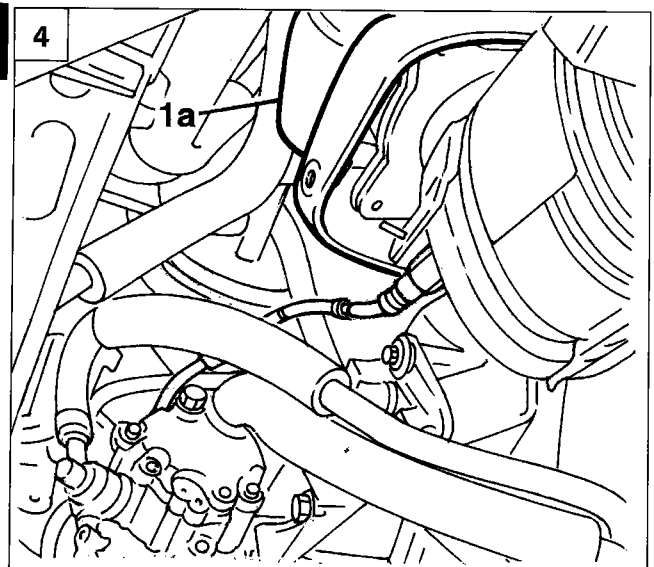
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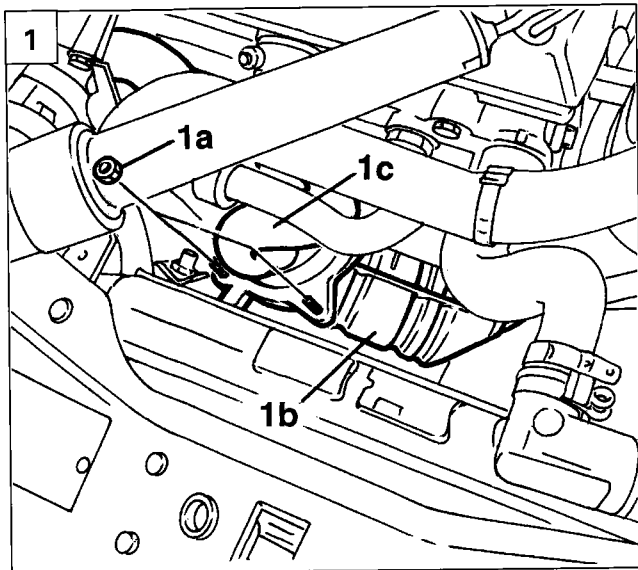
- Raise the lift.

1. Undo the upper fixing bolts (1a) and the side fixing bolts (1b) and remove the shield (1c) under the engine.

2. Undo the lower bolts (1a) and remove the fan (1b).

3. Undo the fixing nuts (1a) and remove the lower part (1b) of the heat shield.

4. Remove the upper part (1a) of the heat shield.



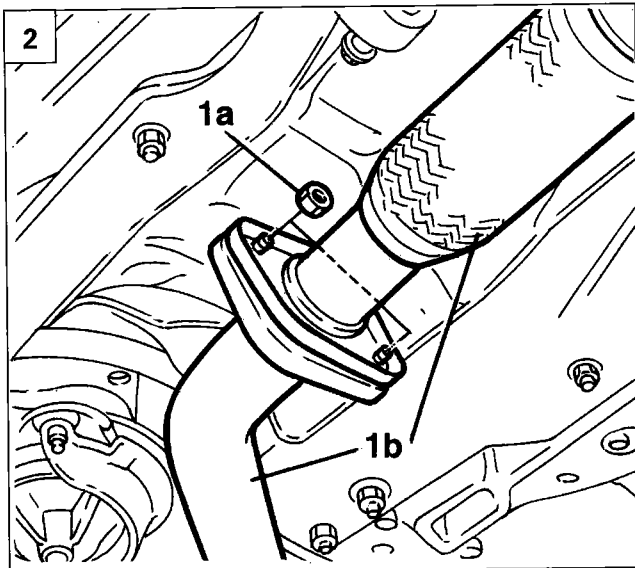
REMOVING-REFITTING CATALYTIC CONVERTER

Removing

- Position the vehicle on a lift.
 - Disconnect the negative battery terminal.
 - Remove: the upper and lower heat shields, the front and rear Lambda sensors, carrying out the operations described in the relevant chapters.
 - Lower the lift.
1. Undo the fixing nuts (1a) and separate the catalytic converter (1b) from the exhaust manifold (1c).



Nuts 1a: 3.2 daNm



- Raise the lift.
2. Undo the fixing nuts (1a) and separate the exhaust pipe (1b).



Nuts 1a: 4.2 daNm

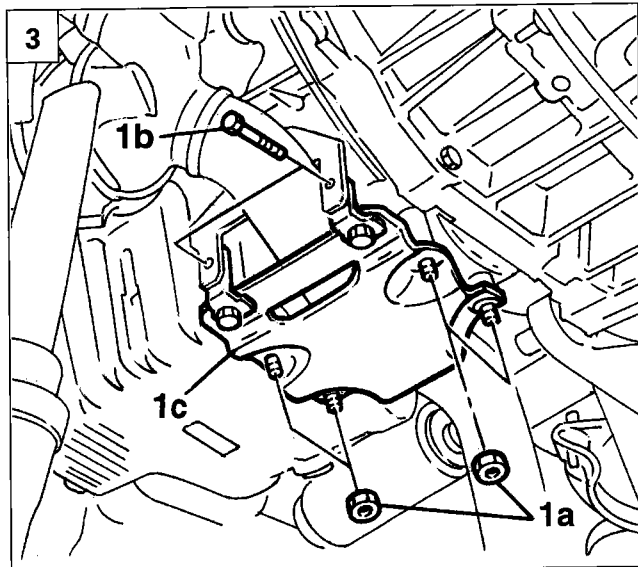
3. Undo the nuts (1a) and the bolts (1b) and remove the bracket (1c).



Nuts 1a: 2.5 daNm



Bolts 1b: 2.5 daNm



Refitting

- Reverse the order of the operations carried out for the removal.

