



SERVICE

DIREZIONE POST-VENDITA

SERVIZI ASSISTENZIALI

Viale Alfa Romeo 20020 Arese (MI)

Fiat Auto S.p.A.

Publication PA497200000000 - 4./95

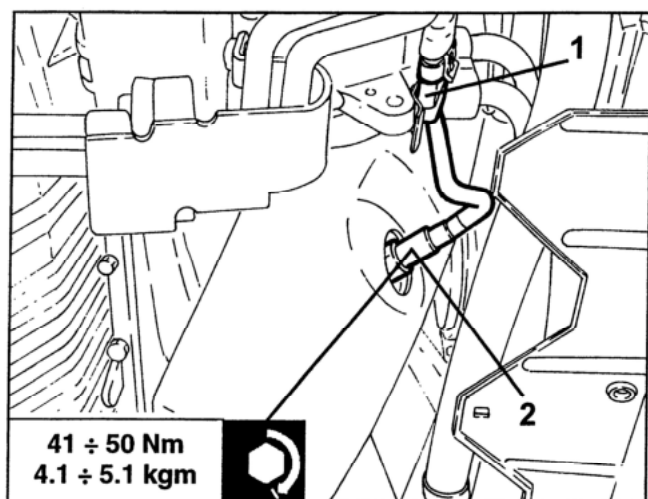
Printed in Italy

no. 60494410

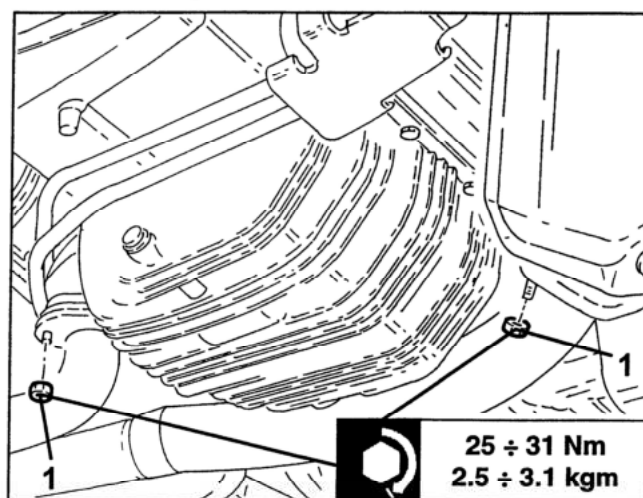
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2. Unscrew and remove the left-hand lambda sensor upstream of the catalytic converter.



1. Undo the nuts securing the front exhaust pipe sections to the exhaust manifolds with built-in catalytic preconverters.
- Remove the gaskets.

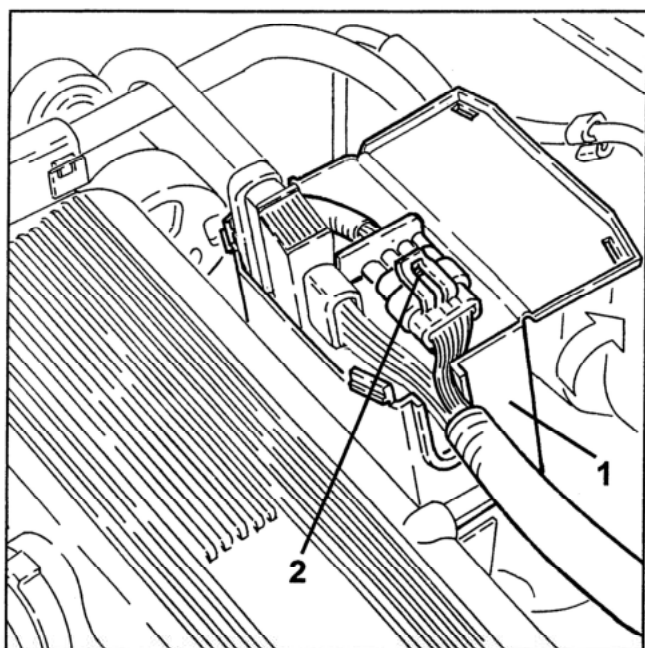


LAMBDA SENSOR DOWNSTREAM OF CATALYTIC CONVERTER

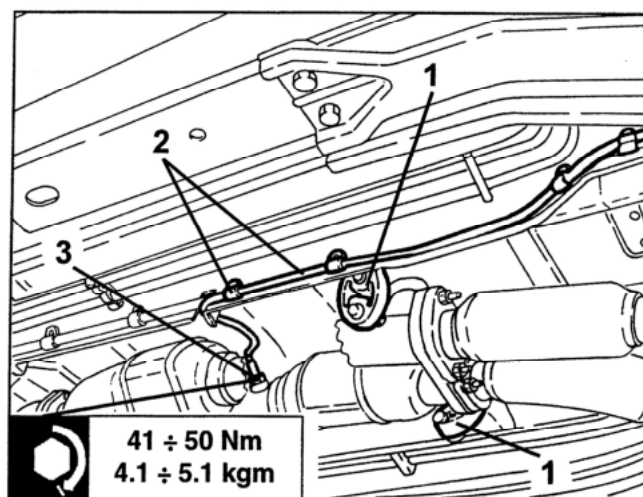
REMOVING/REFITTING

NOTE: removal of the left-hand lambda sensor is shown below; proceed in the same way to remove/refit the right-hand lambda sensor.

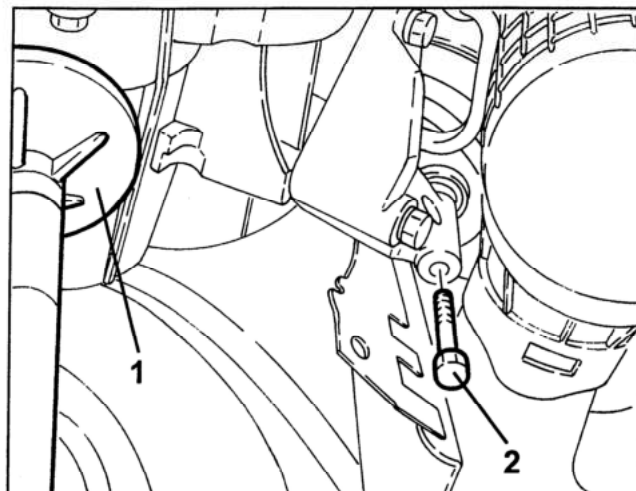
- Position the vehicle on a lift.
- Ensure the ignition key is turned OFF, then disconnect the battery terminal (-).
- 1. Open the connection carrier box.
- 2. Disconnect the electrical connection of the left-hand lambda sensor upstream of the catalytic converter (black).



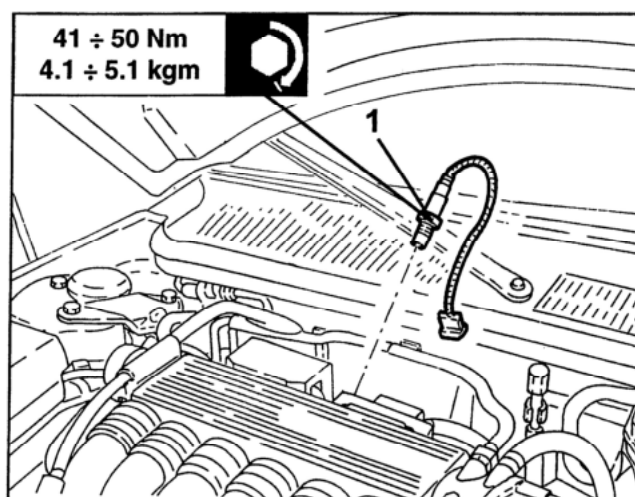
1. Release the catalytic converters from their flexible mounts.
2. Release the electrical wiring of the left lambda sensor downstream of the catalytic converter from its fastenings.
3. Unscrew and remove the left lambda sensor downstream of the catalytic converter.



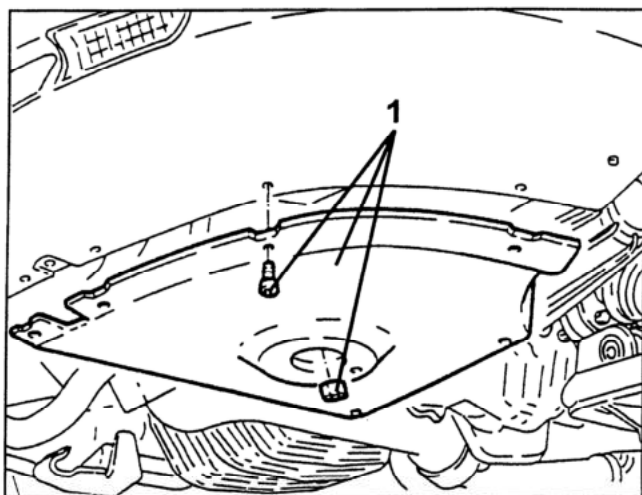
1. Unscrew the nuts securing the front exhaust pipe sections to their exhaust manifolds with built-in catalytic preconverters.



1. Unscrew and remove the right-hand lambda sensor upstream of the catalytic converter.



1. Unscrew the nut and screws, then remove the lower air cleaner protection.



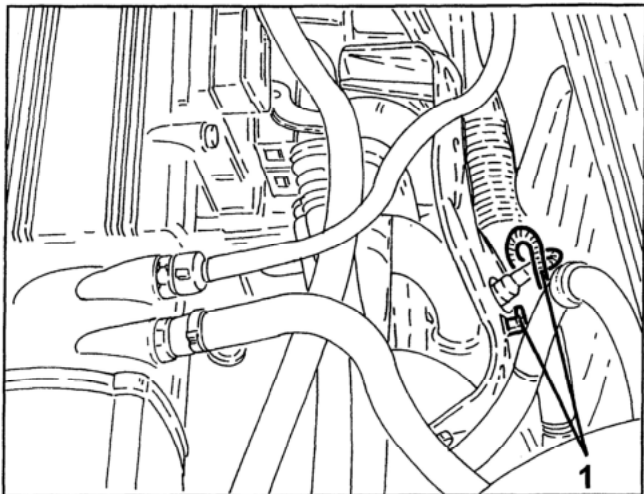
1. Position a hydraulic jack beneath the gearbox.
 2. Unscrew the bolt securing the power unit gearbox side rigid mount to its flexible block.
- Lower the hydraulic jack slowly and remove.

LEFT-HAND LAMBDA SENSOR UPSTREAM OF THE CATALYTIC CONVERTER

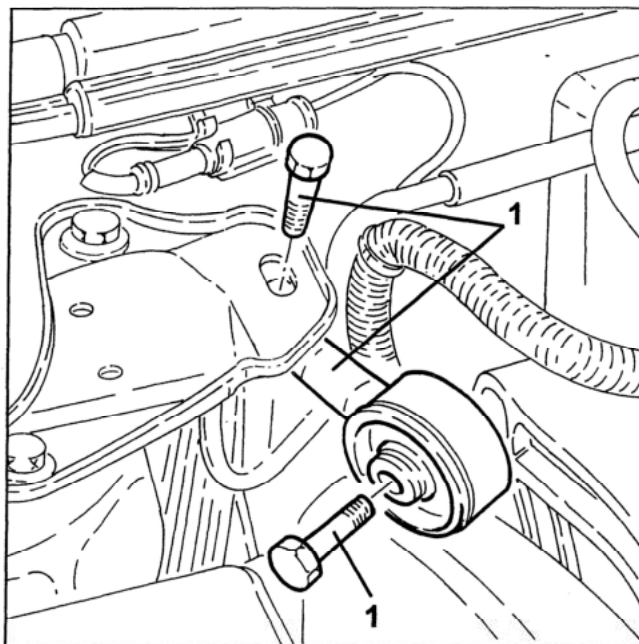
REMOVING/REFITTING

- Position the vehicle on a lift
 - Ensure the ignition key is turned OFF, then disconnect the battery terminal (-).
1. Disconnect the electrical connection of the left-hand lambda sensor upstream of the catalytic converter.

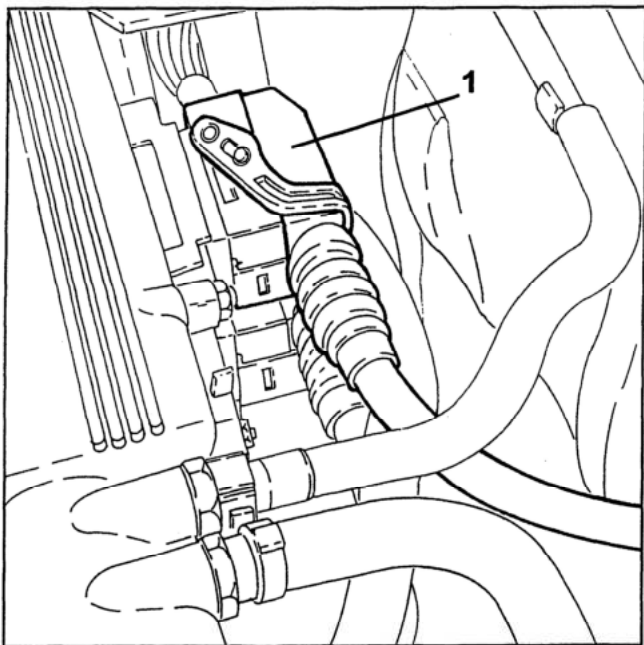
1. Release the electrical wiring of the right-hand lambda sensor upstream of the catalytic converter from the retaining clips.



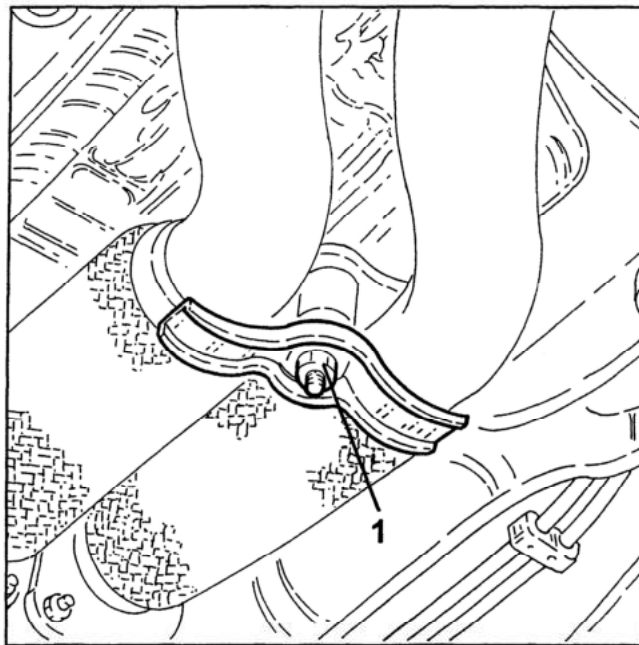
1. Unscrew the bolts and remove the engine vibration-proof bar.



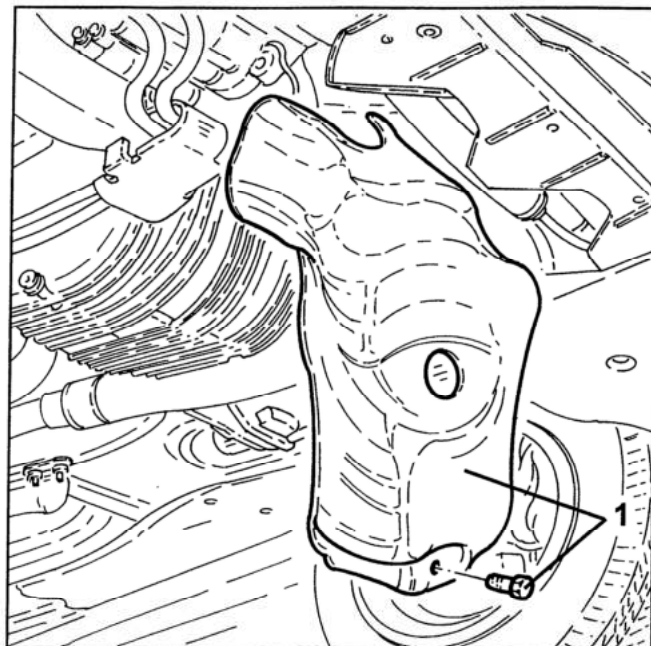
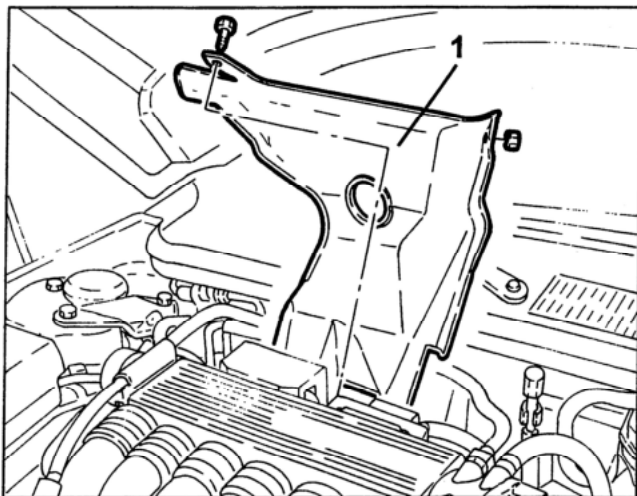
1. Disconnect the upper electrical connection from the injection - ignition control unit.



1. Loosen the bolt joining the front exhaust pipe sections.



1. Undo the nuts and remove the right cylinder head exhaust manifold bulkhead.

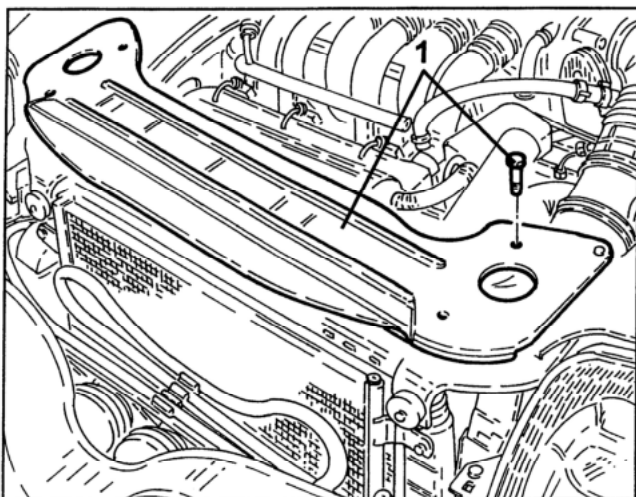


LEFT CYLINDER HEAD EXHAUST MANIFOLD BULKHEAD

REMOVING/REFITTING

- Remove the left lambda sensor upstream of the catalytic converter (see specific paragraph).

1. Unscrew the bolts and remove the upper radiator beam.

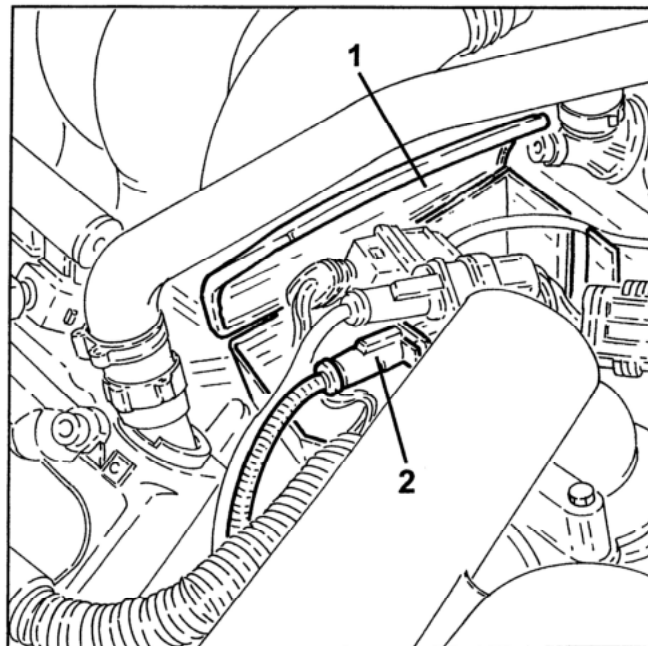


- Undo the upper nuts securing the left cylinder head exhaust manifold bulkhead.
- Withdraw the engine oil dipstick.
- 1. Unscrew the lower bolt and remove the left cylinder head exhaust manifold bulkhead.

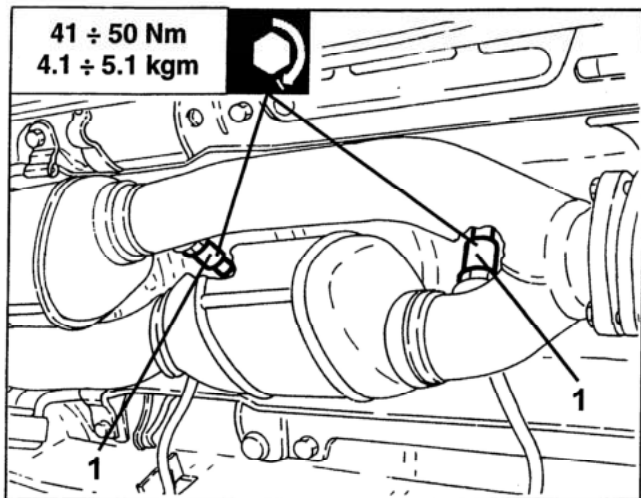
RIGHT-HAND LAMBDA SENSOR UPSTREAM OF THE CATALYTIC CONVERTER

REMOVING/REFITTING

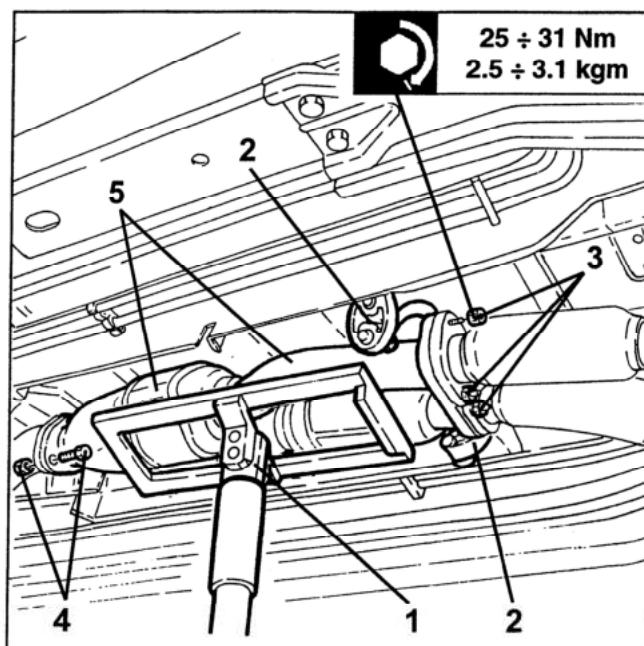
- Place the vehicle on a lift.
- Ensure the ignition key is turned OFF, then disconnect the battery terminal (-).
- 1. Open the connection carrier box.
- 2. Disconnect the electrical connection of the right-hand lambda sensor upstream of the catalytic converter (grey).



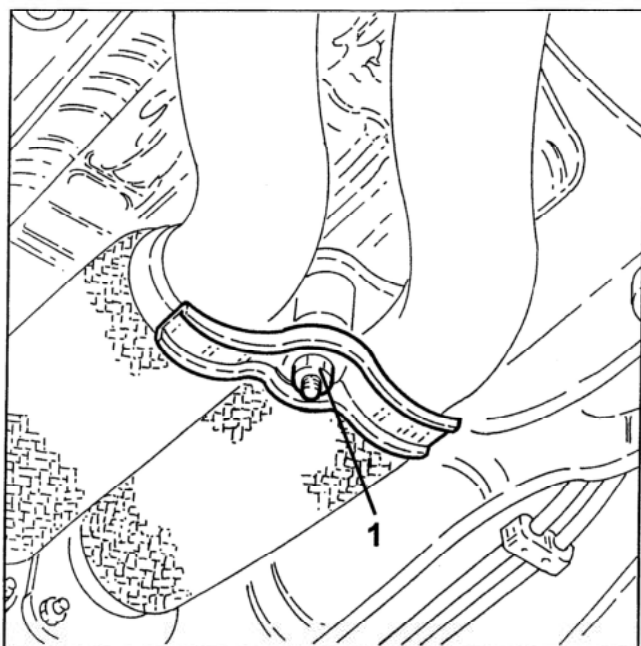
1. Unscrew the lambda sensors downstream of the catalytic converters and place them to one side.



5. Move the catalytic converters back sufficiently to release the front studs from the front exhaust pipe sections and remove.
- Remove the gaskets.



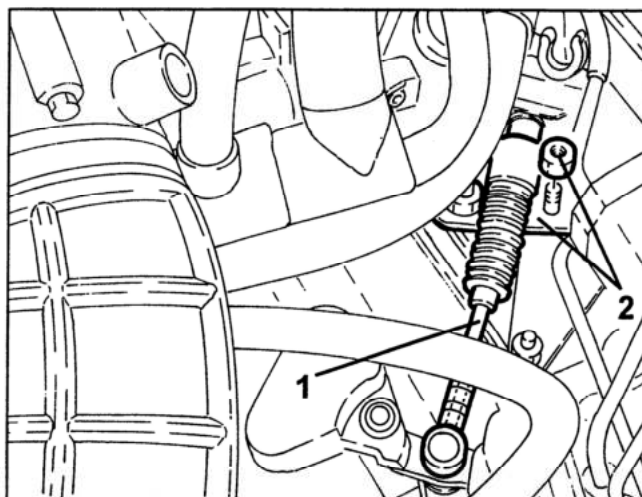
1. Loosen the bolt of the bracket joining the front exhaust pipe sections.



RIGHT-HAND CYLINDER HEAD EXHAUST MANIFOLD BULKHEAD

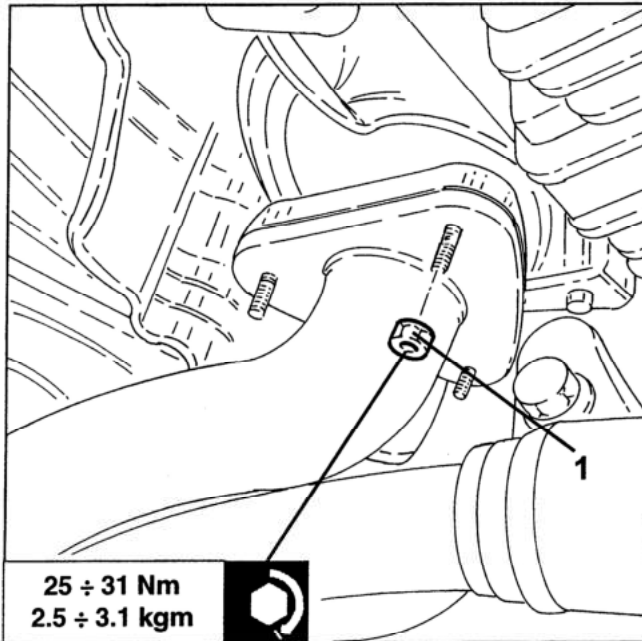
REMOVING/REFITTING

- Remove the right lambda sensor upstream of the catalytic converter (see specific paragraph).
- 1. Disconnect the gear engagement cable.
- 2. Unscrew the nuts and move the bracket with gear engagement cable to one side.

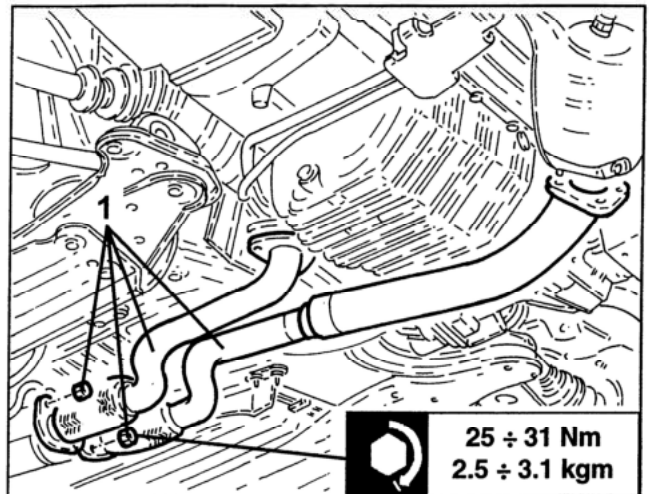


1. Position a hydraulic jack beneath the catalytic converters.
2. Release the catalytic converters from their flexible mounts.
3. Unscrew the nuts securing front exhaust pipe sections to the catalytic converters.
4. Undo the bolts securing the catalytic converters to the intermediate exhaust silencer.

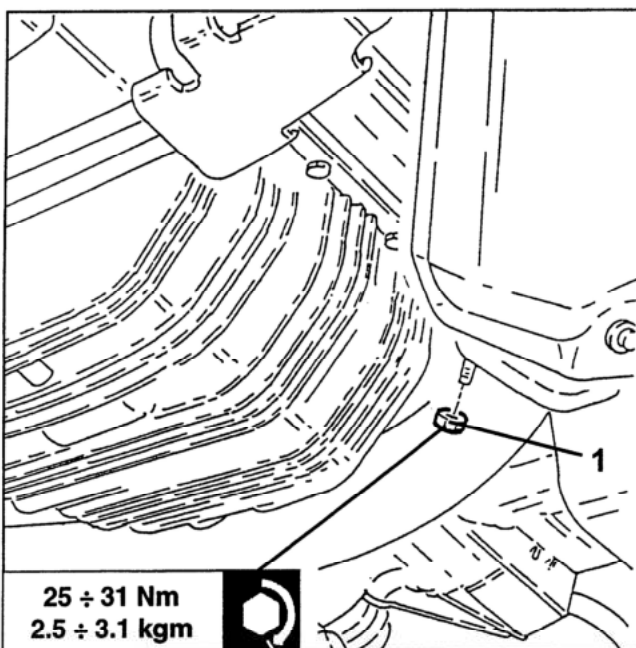
1. Undo the bolts securing the front section of the exhaust pipe to the right exhaust manifold with built-in catalytic preconverter.



1. Undo the nuts securing the front exhaust pipe sections to the catalytic converters, then remove.
- Remove the gaskets.



1. Undo the nuts securing the front exhaust pipe section to the left exhaust manifold with built-in catalytic preconverter.

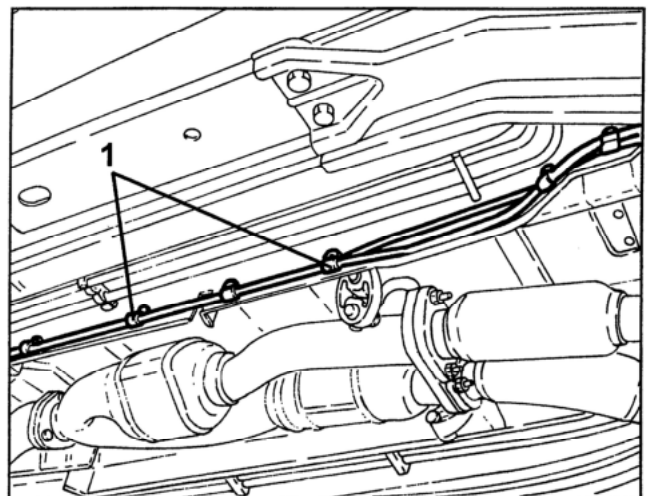


CATALYTIC CONVERTERS

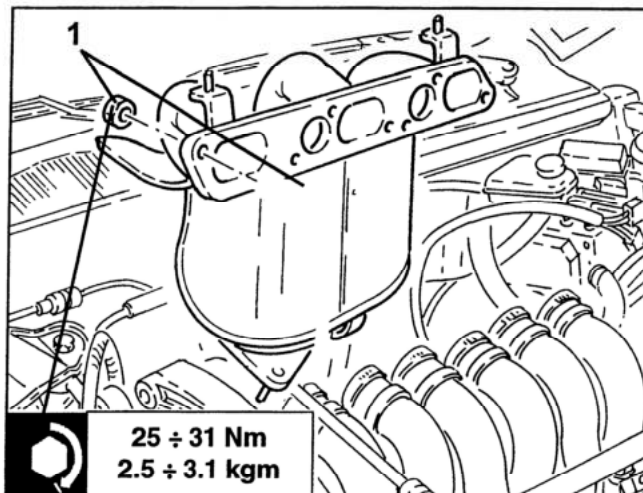
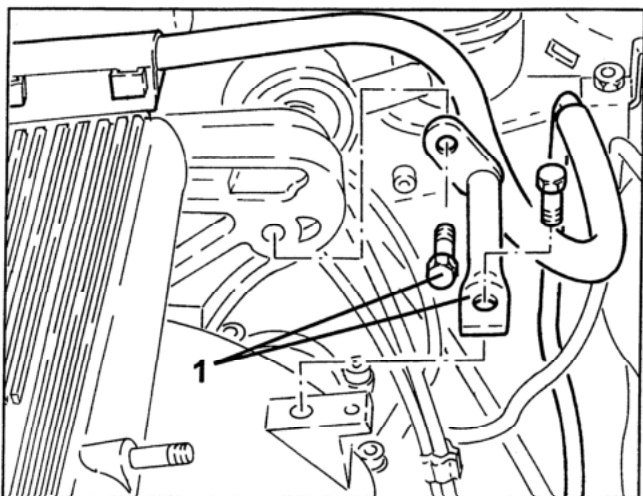
REMOVING/REFITTING

- Place the vehicle on a lift.

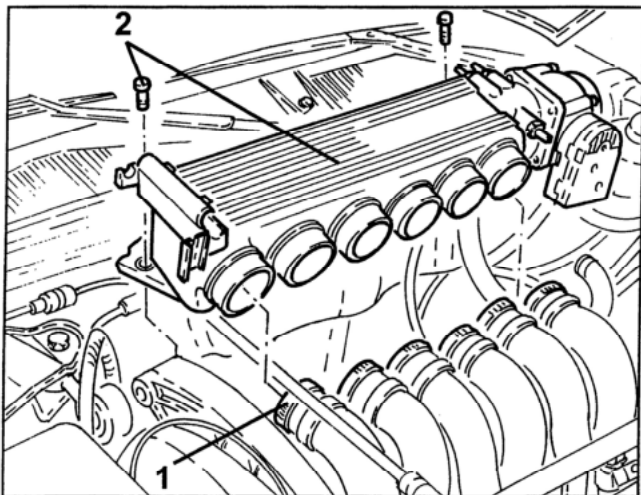
1. Release the electrical wiring of lambda sensors downstream of the catalytic converters from their underbody clips.



1. Undo the bolts and remove the reinforcement between air capacity chamber and engine vibration-proof bar mount.



1. Loosen the collars securing the air intake ducts to the air capacity chamber.
2. Undo the bolts and remove the air capacity chamber.

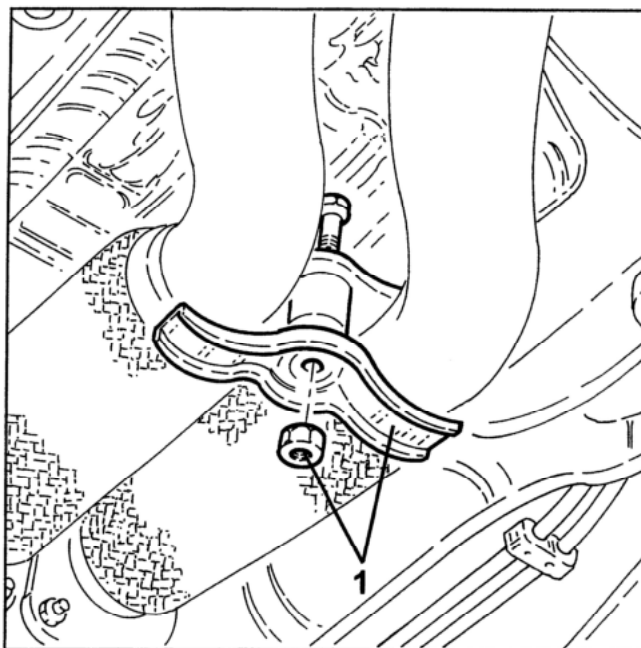


FRONT EXHAUST PIPE SECTIONS

REMOVING/REFITTING

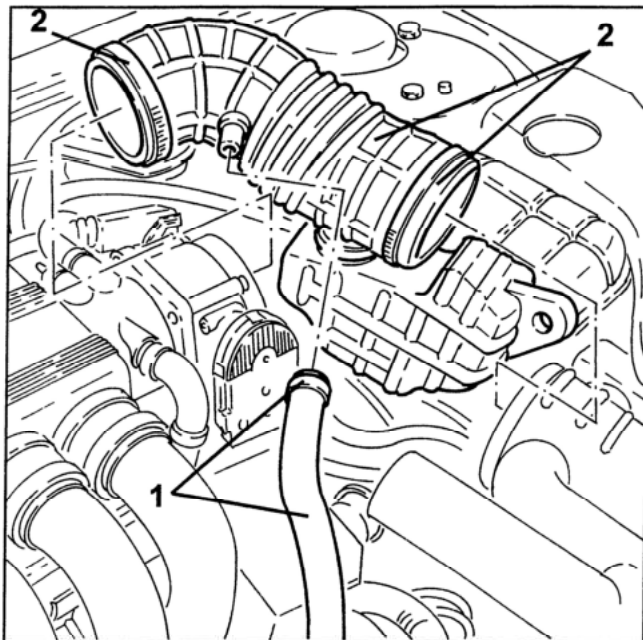
- Position the vehicle on a lift.

1. Undo the bolt and remove the bracket joining front sections of the exhaust pipe.

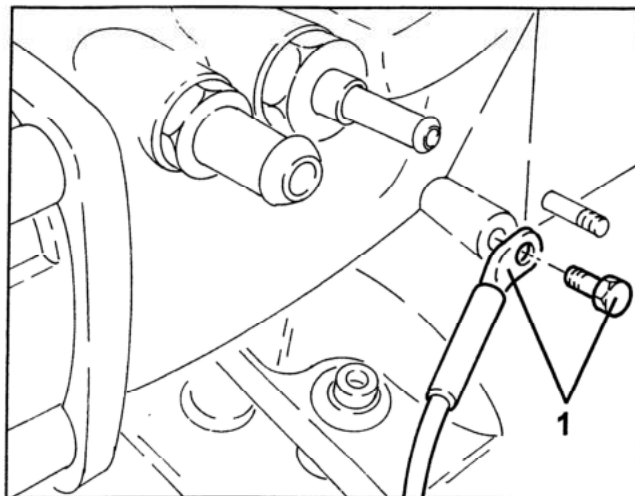


1. Undo the nuts and remove the right exhaust manifold with built-in catalytic preconverter.
- Remove the gasket.

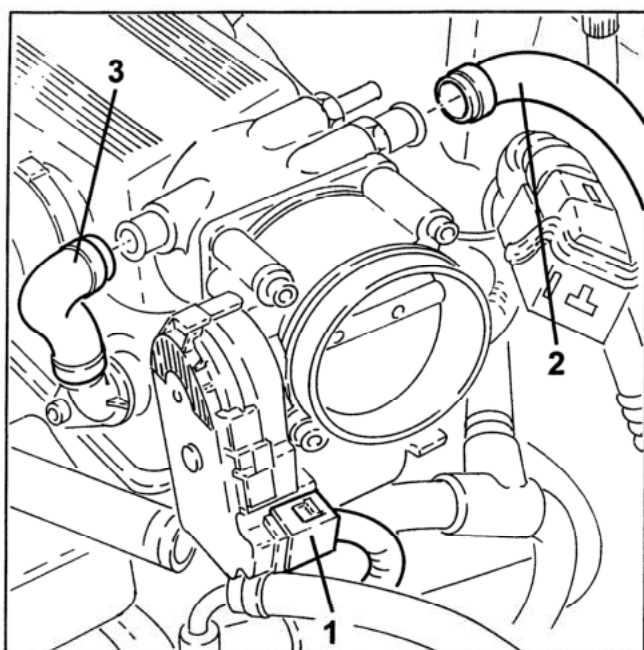
1. Loosen the collar and disconnect the engine oil vapour recirculation pipe from the corrugated sleeve.
2. Loosen the sleeve and remove the corrugated sleeve complete with resonator.



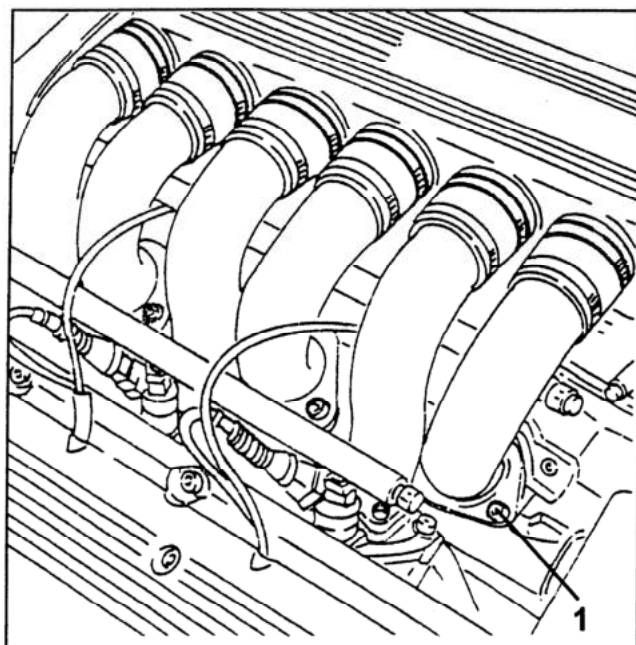
1. Unscrew the bolt and disconnect the earth lead from the air capacity chamber.



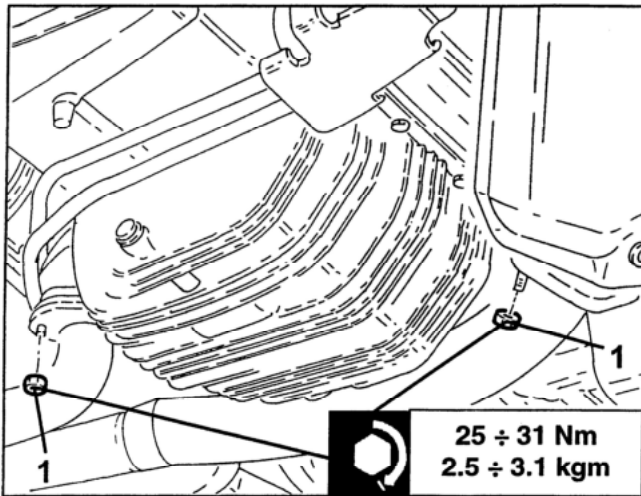
1. Disconnect the electrical connection from the motorised throttle body.
2. Disconnect the brake servo vacuum intake pipe from the air capacity chamber.
3. Loosen the collar and disconnect the oil vapour recovery pipe from the air capacity chamber.



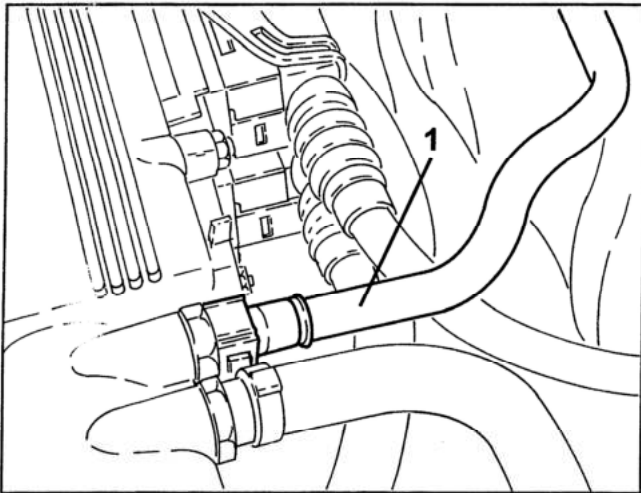
1. Loosen the bolts securing the air intake ducts to the manifolds.



1. Undo the bolts securing front sections of the exhaust pipe to the exhaust manifolds with built-in catalytic preconverters.
- Remove the gaskets.

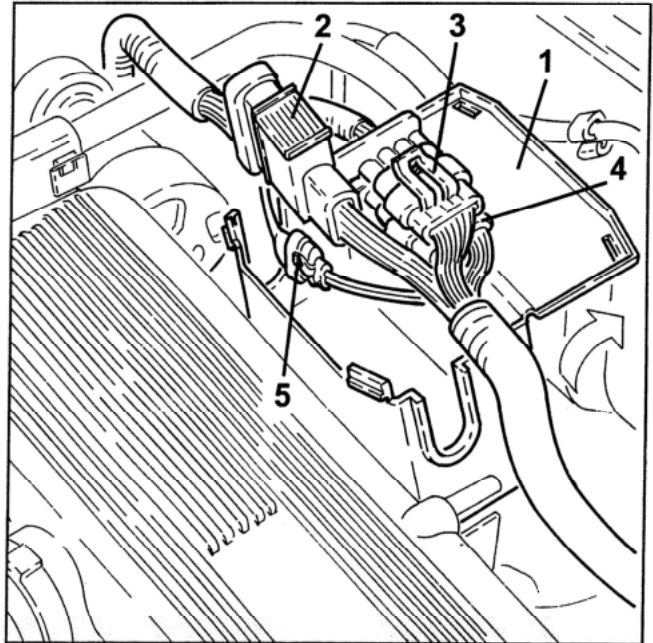


- Remove the right cylinder head exhaust manifold bulkhead (see specific paragraph).
- 1. Disconnect the fuel vapour recovery pipe from the air capacity chamber and move side.

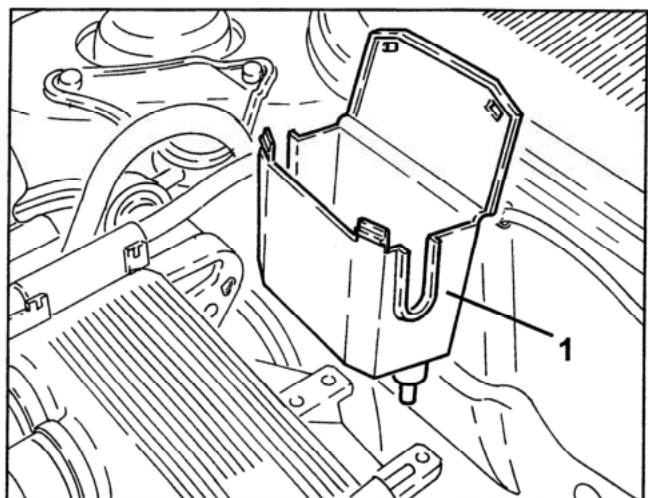


- Remove the injection-ignition control unit (see specific paragraph).
- 1. Open the connection carrier box.
- 2. Disconnect the engine electrical wiring junction.

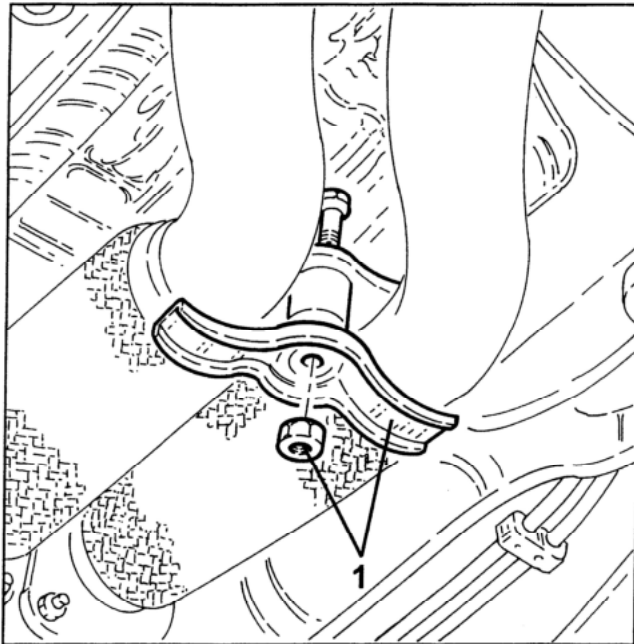
3. Disconnect the electrical connection of the left lambda sensor downstream of the catalytic converter (black).
4. Disconnect the electrical connection of the right lambda sensor downstream of the catalytic converter (grey).
5. Disconnect the electrical connection of the front knock sensor (black).



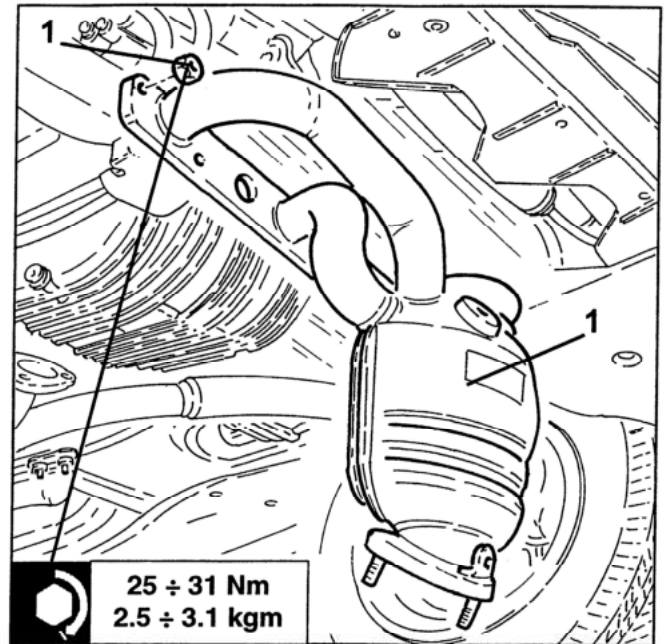
1. Remove the connection carrier box.



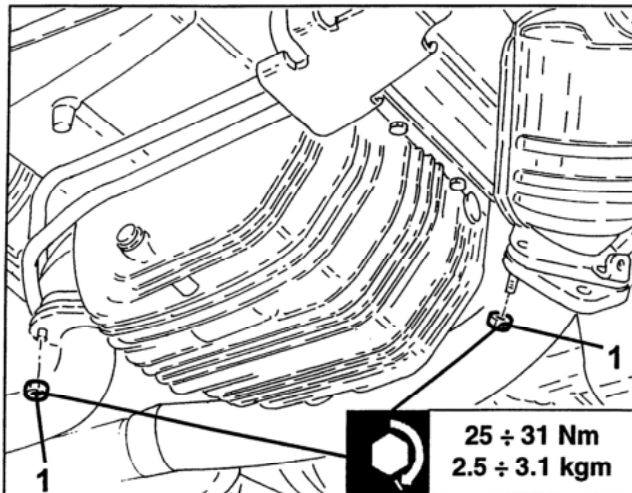
1. Undo the bolt and remove the bracket joining front sections of the exhaust pipe.



1. Unscrew the nuts and remove the left exhaust manifold with built-in catalytic converter.
- Remove the gasket.



1. Undo the bolts securing front sections of the exhaust pipe to the exhaust manifolds with built-in catalytic preconverters.

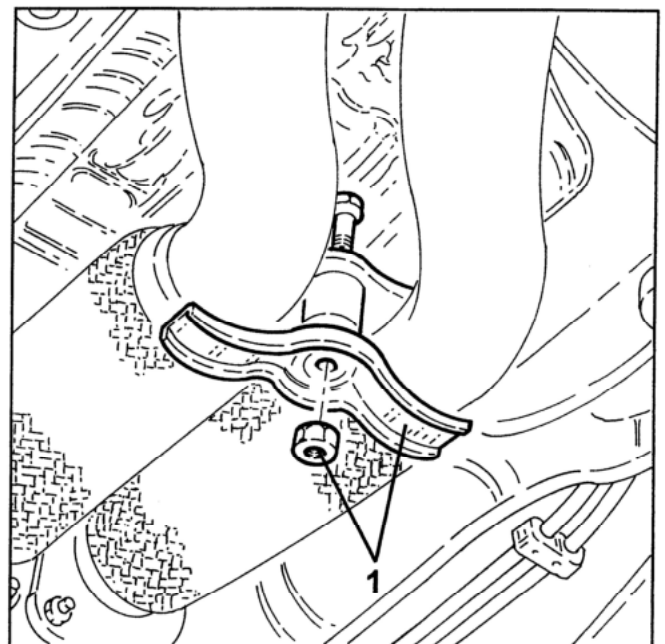


- Release the front exhaust pipe section from the studs on the left exhaust manifold with built-in catalytic preconverter and set aside.
- Remove the gasket.

RIGHT EXHAUST MANIFOLD WITH BUILT-IN CATALYTIC CONVERTER

REMOVING/REFITTING

- Place the vehicle on a lift.
1. Undo the bolt and remove the bracket joining front sections of the exhaust pipe.



ATTENTION:

During engine operation, all exhaust pipes and particularly the catalytic converter become very hot.

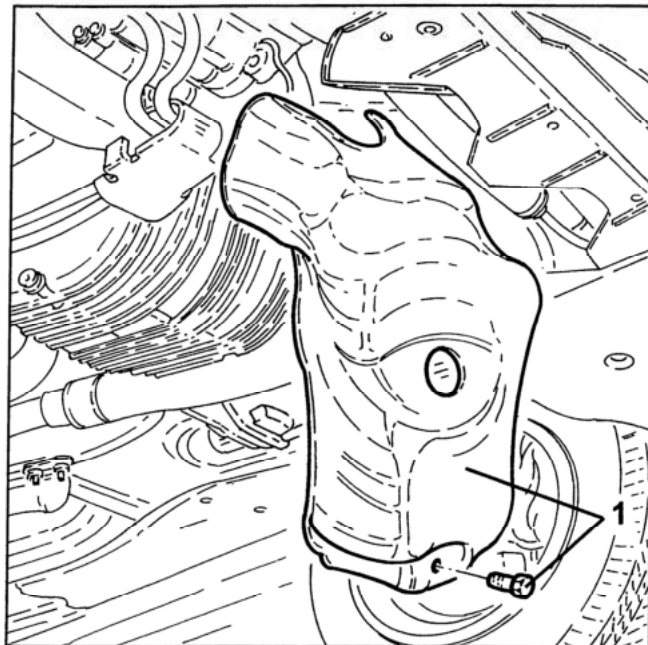
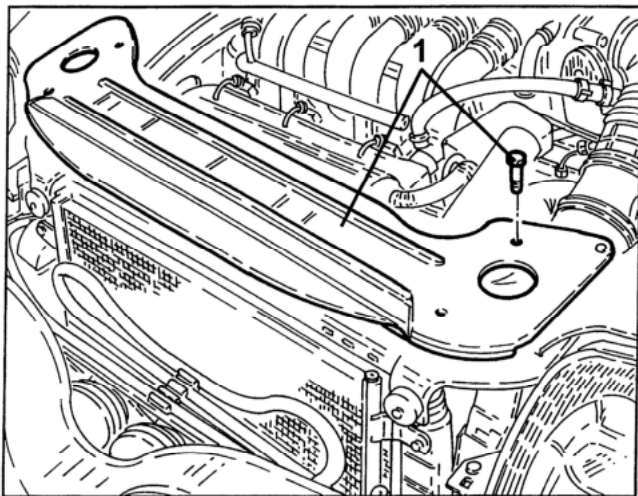
Before beginning work, therefore, leave the engine off for long enough for it to cool down. Never touch the catalytic converter unless you are wearing proper protection such as gloves etc. Never bring easily inflammable material close to the catalytic converter.

**LEFT CATALYTIC CONVERTER
WITH BUILT-IN CATALYTIC
PRECONVERTER**

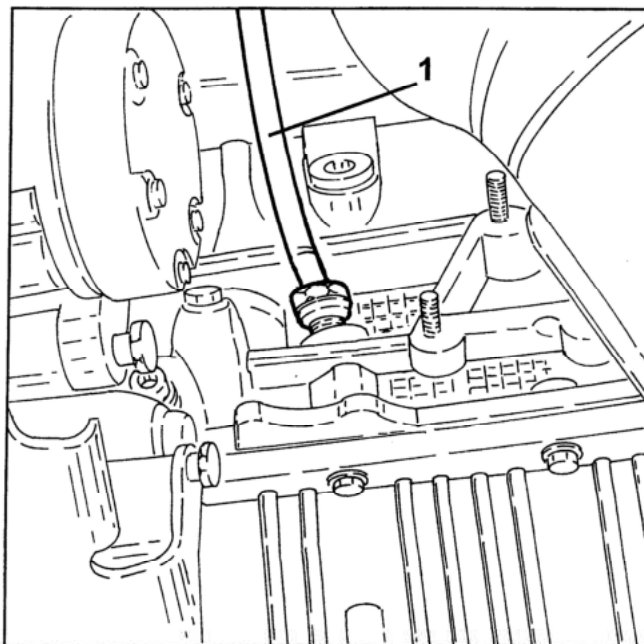
REMOVING/REFITTING

- Remove the left lambda sensor upstream of the catalytic converter (see specific paragraph).

1. Unscrew the bolts and remove the upper radiator bream.



1. Remove the engine oil dipstick guide tube.

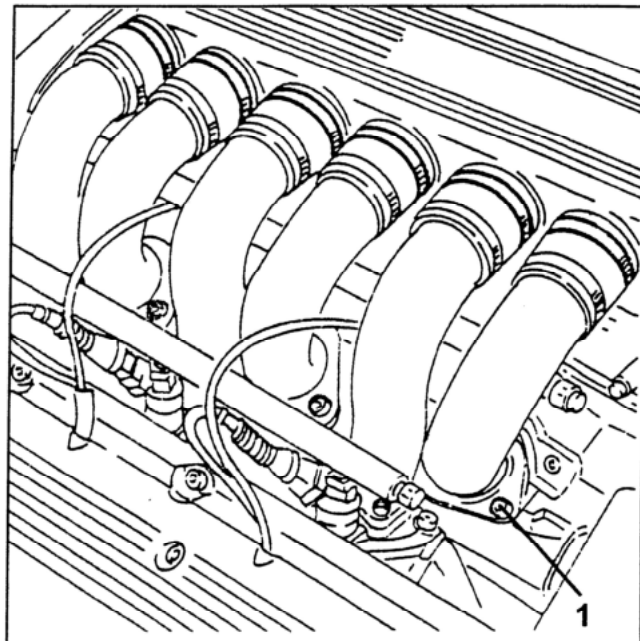
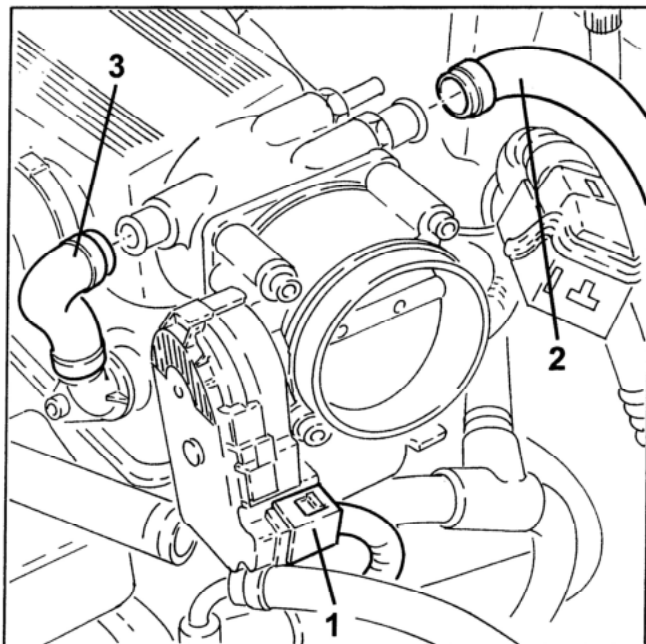


- Undo the upper bolts securing the left cylinder head exhaust manifold bulkhead.

- Withdraw the engine oil dipstick.

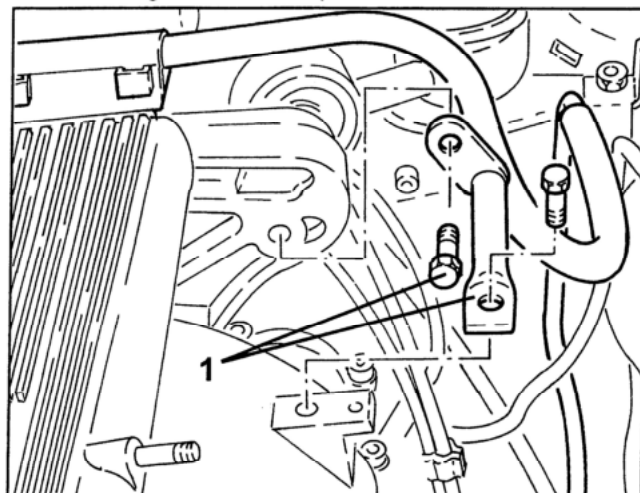
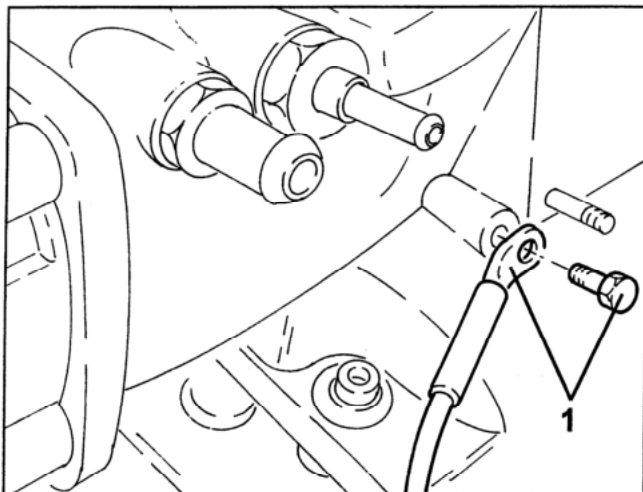
1. Unscrew the lower bolt and remove the left cylinder head manifold bulkhead.

3. Loosen the collar and disconnect the oil vapour recovery pipe from the air capacity chamber.

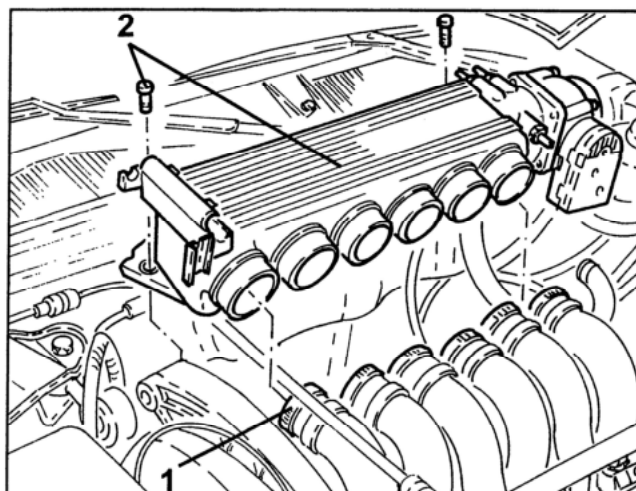


1. Unscrew the fastenings and remove the reinforcement between the air capacity chamber and the engine vibration-proof bar mount.

1. Unscrew the bolt and disconnect the earth lead from the air capacity chamber.



1. Loosen the collar securing the air intake duct retaining collars to the air capacity chamber.
2. Unscrew the bolts and remove the air capacity chamber.



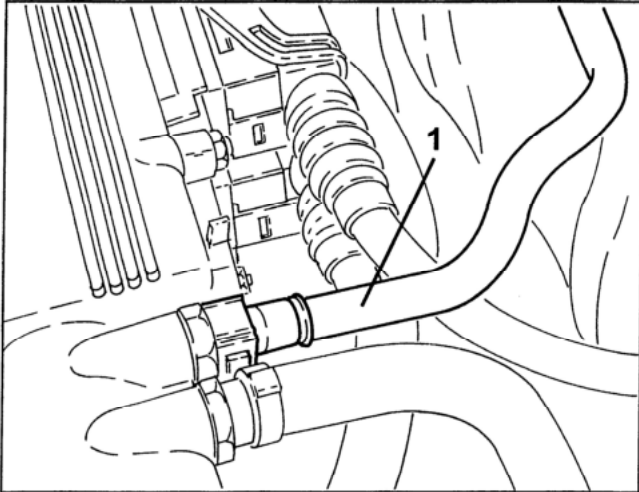
1. Loosen the bolts securing the intake ducts to the manifolds.

AIR CAPACITY CHAMBER

REMOVING/REFITTING

- Ensure the ignition key is turned OFF, then disconnect the battery terminal (-).

1. Disconnect the fuel vapour recovery pipe from the air capacity chamber and move to one side.



- Remove the injection-ignition control unit (see specific paragraph).

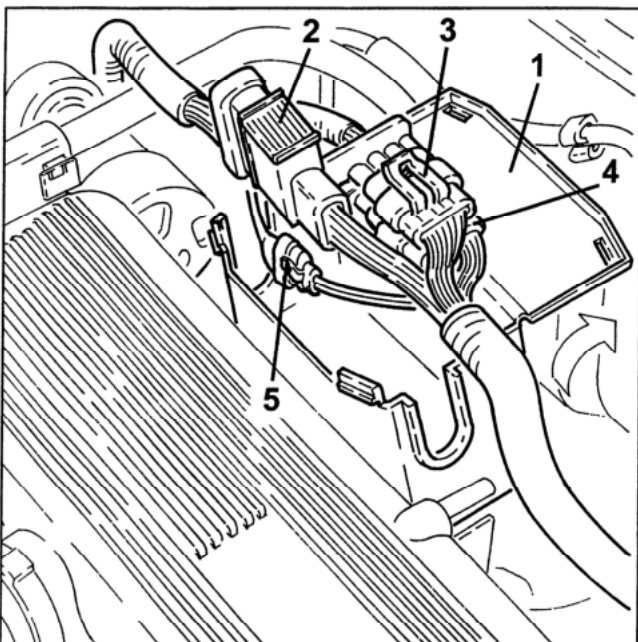
1. Open the connection carrier box.

2. Disconnect the engine electrical wiring junction.

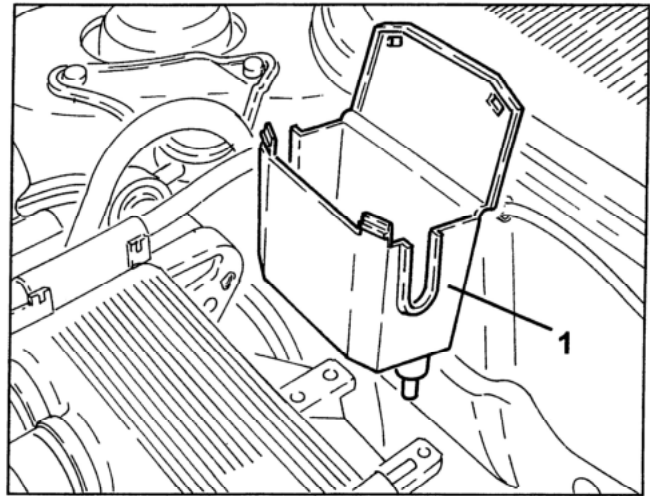
3. Disconnect the electrical connection of the left lambda sensor downstream of the catalytic converter (black).

4. Disconnect the electrical connection of the right lambda sensor downstream of the catalytic converter (grey).

5. Disconnect the electrical connection of the front knock sensor (black).

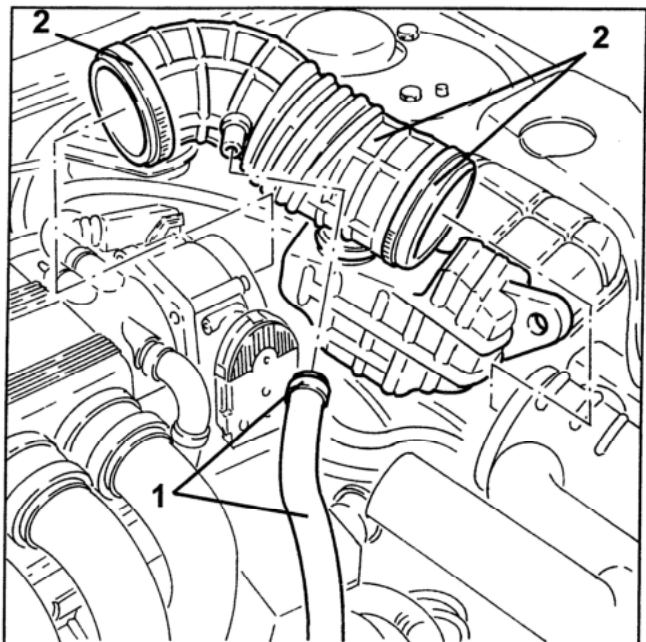


1. Remove the connection carrier box.



1. Loosen the collar and disconnect the engine oil vapour recirculation pipe from the corrugated sleeve.

2. Loosen the collars and remove the corrugated sleeve complete with resonator.



1. Disconnect the electrical connection from the motorised throttle body.

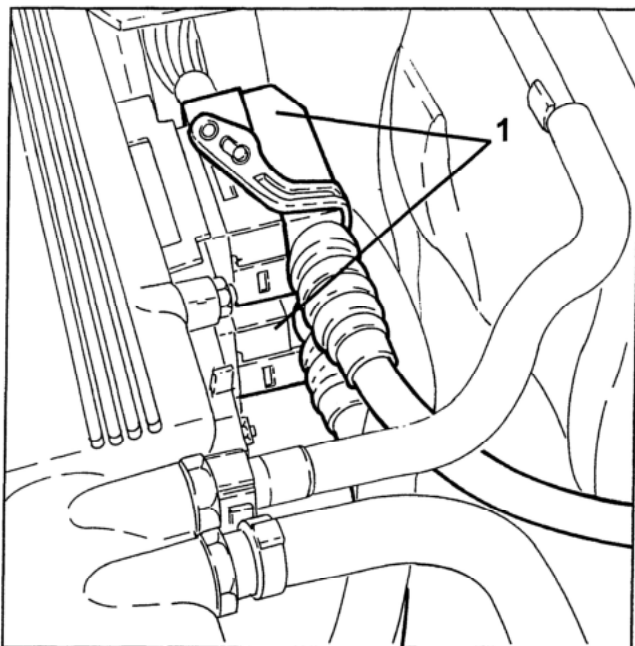
2. Disconnect the brake servo vacuum intake pipe from the air capacity chamber.

INJECTION - IGNITION CONTROL UNIT

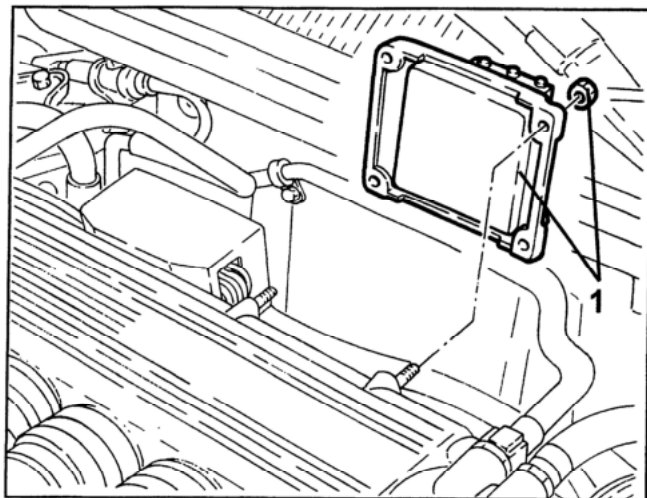
REMOVING/REFITTING

- Ensure the ignition key is turned OFF, then disconnect the battery negative terminal (-).

1. Disconnect the injection-ignition control unit electrical connections.



1. Unscrew the nuts and remove the injection - ignition control unit.



VARIANTS FOR EURO 3 MODELS**INDEX****ENGINE****10****ELECTRICAL - ELECTRONIC COMPONENTS**

- Injection - ignition control unit 1

AIR INTAKE SYSTEM

- Air capacity chamber 2

EXHAUST SYSTEM

- Left catalytic converter with built-in catalytic preconverter 4
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- Lambda sensor downstream of catalytic converter 14

FOR INFORMATION NOT GIVEN HERE, REFER TO THE CORRESPONDING GTV 3.0 24V ASSEMBLY

FOR THE DESCRIPTION OF THE NEW ME3.1 INJECTION/IGNITION SYSTEM, REFER TO PRINT NO. 507137 "EMISSION CONTROL SYSTEMS EOBD ON BOARD DIAGNOSTIC MANUAL"

GEAR RATIOS - EURO 3

Axle ratio	Gear engaged	Gear ratio	Total ratio
16/57 1 : 3.563	1 st	1 : 3.500	1 : 12.470
	2 nd	1 : 2.235	1 : 7.963
	3 rd	1 : 1.520	1 : 5.416
	4 th	1 : 1.161	1 : 4.136
	5 th	1 : 0.971	1 : 3.460
	6 th	1 : 0.811	1 : 2.889
	Reverse	1 : 3.545	1 : 12.631

SPARK PLUGS - EURO 3

Type	NGK RPFR6B
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WHEELS AND TYRES - EURO 3

Features		Version	SPIDER 3.0 24V	GTV 3.0 24V
Rim size	standard		6.5J x 16"	
	optional		7J x 17" 7.5J x 17"	
Tyre size	standard		205/50 R16 87Y	
	optional		225/45 ZR17 91Y	
Tyre pressure (cold)		bar (kg/cm ²)	front 2.7	rear 2.5
Space saver spare wheel	Rim size		4J x 16" C24	
	Tyre size		T125/80 R16 97M	
	Tyre pressure		bar (kg/cm ²) 4.2	

Snow chain tyres: snow chains can only be used with 205/45 ZR16 REINFORCED tyres or 205/45 R16 87W REINFORCED tyres.

Snow chains cannot be fitted on 225/45 ZR17 91Y tyres

IMPORTANT:

Increase pressure by 0.3 bar in the event of constant driving at top speed.

ENGINE TECHNICAL FEATURES - EURO 3

CHARACTERISTIC DATA

Engine		AR 16105
Cycle		Otto, four stroke
Injection / Ignition		Multi Point BOSCH ME3.1 EOBD
Firing order		1 - 4 - 2 - 5 - 3 - 6
Capacity	cm ³	2959
Number of cylinders		6 at V 60°
Bore	mm	93
Stroke	mm	72.6
Maximum power	kW CEE rpm	160 6300
Maximum torque	Nm CEE rpm	265 5000
Compression ratio		10.0 : 1
Engine oil pressure (at 100°C)		
- Idling ratio	bar	> 0.8
- At 4000 rpm		> 4.5
Idling ratio	rpm	700 ± 20

MODEL IDENTIFICATION - EURO 3

Brand name	SPIDER 3.0 24V	GTV 3.0 24V
Version	Spider	Coupé
Version (on identification plate)	916S1B00 32	916C1B00 33
Chassis (in engine compartment, on upper right-hand shock absorber bracket)	-	-
Progressive chassis number	-	-
Engine (code)	AR 16105	AR 16105
Engine symbol	 24V	 24V
Gearbox (code)	C.530.6	C.530.6

WEIGHTS AND LOADS - EURO 3

Unit: kg

Version		SPIDER 3.0 24V	GTV 3.0 24V
Features			
Kerb weight (without driver) (*)		1415	
Maximum admitted load (*)		1680	1820
Load		260	405
Maximum weight allowed on each axle	front	1000	1060
	rear	800	870
Towable weight	trailer with brakes	1000	
	trailer without brakes	500	
Maximum load on tow hitch		50	

(*): Without optional equipment

VARIANTS FOR EURO 3 MODELS**INDEX****TECHNICAL DATA****00**

- Model identification	1
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**FOR INFORMATION NOT GIVEN HERE, REFER TO THE
CORRESPONDING GTV 3.0 24V ASSEMBLY**

**FOR THE DESCRIPTION OF THE NEW ME3.1 INJECTION/IGNITION
SYSTEM, REFER TO PRINT NO. 507137 "EMISSION CONTROL SYSTEMS
EOBD ON BOARD DIAGNOSTIC MANUAL"**