

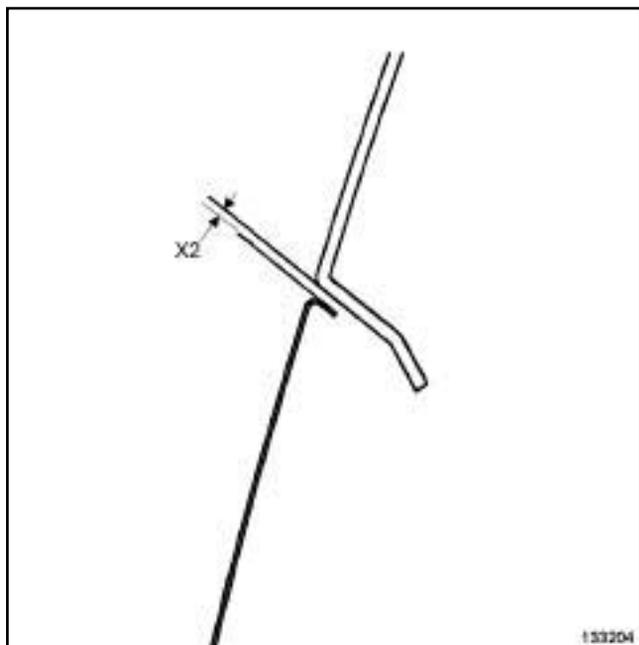
132537

132537

Dimensions in metres:

(A)	0.787
(B)	2.473
(C)	1.000
(D)	4.260
(E)	1.406
(F) (unladen)	1.439
(G)	1.386
(H)	1.940

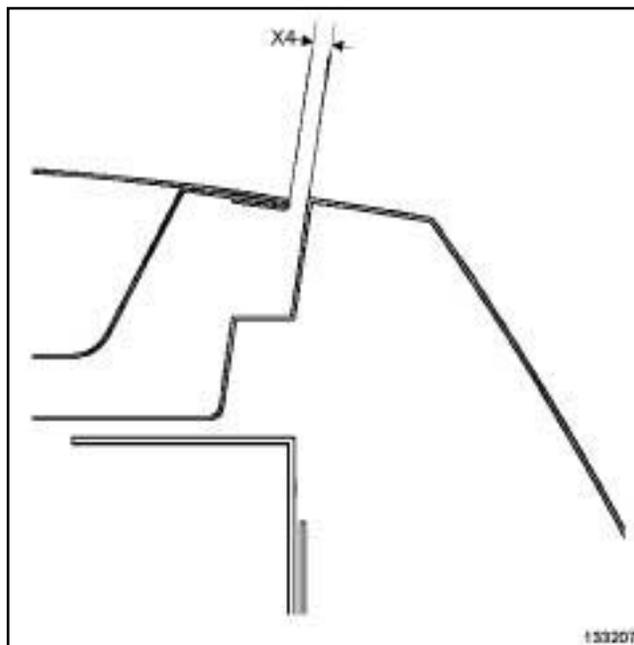
Section 2



133204

$$(X2) = 2 \text{ mm} \pm 1.5$$

Section 4

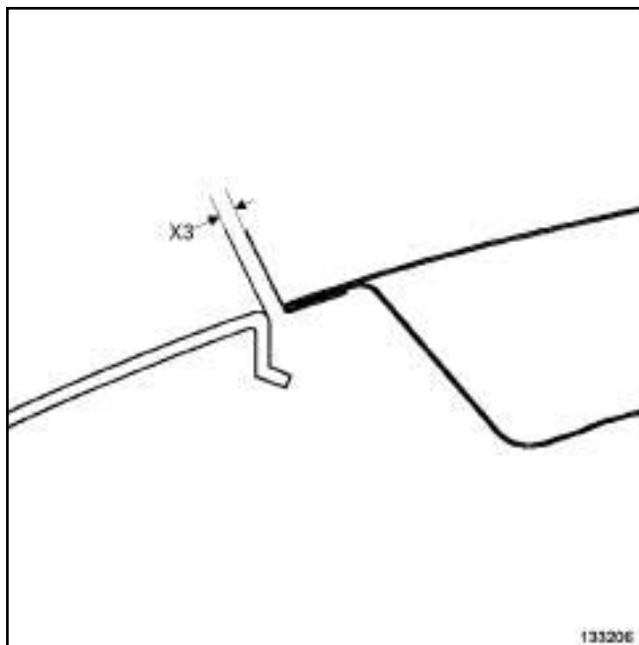


133207

133207

$$(X4) = 3.5 \text{ mm} \pm 1.4$$

Section 3

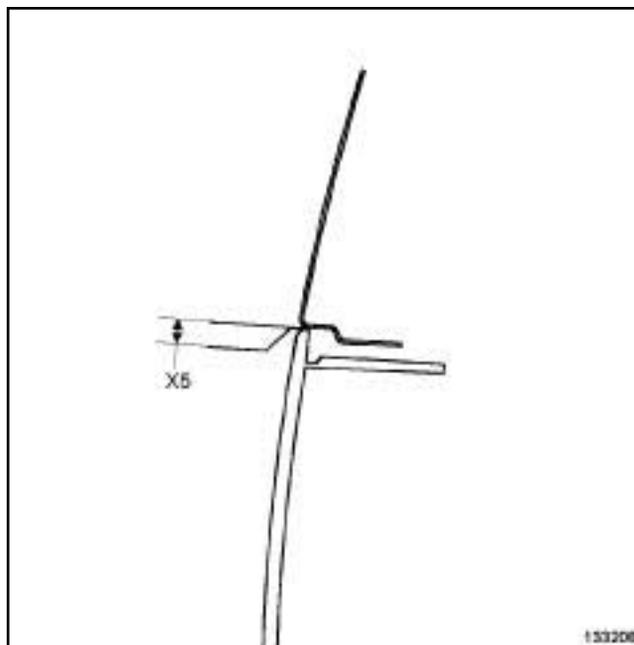


133206

133206

$$(X3) = 4 \text{ mm} \pm 2$$

Section 5



133208

133208

$$(X5) = 0.4 \text{ mm} \pm 0.4$$

CONSUMABLES - PRODUCTS

Vehicle: Parts and consumables for the repair

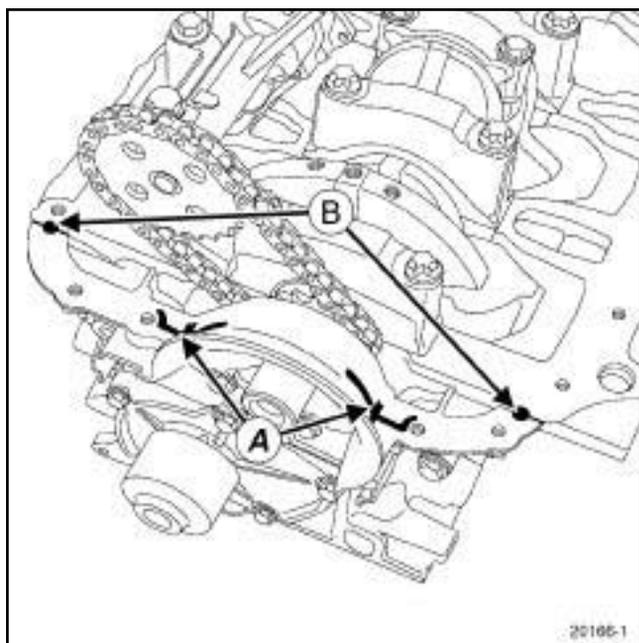
04B

Consumables for mechanical repair:

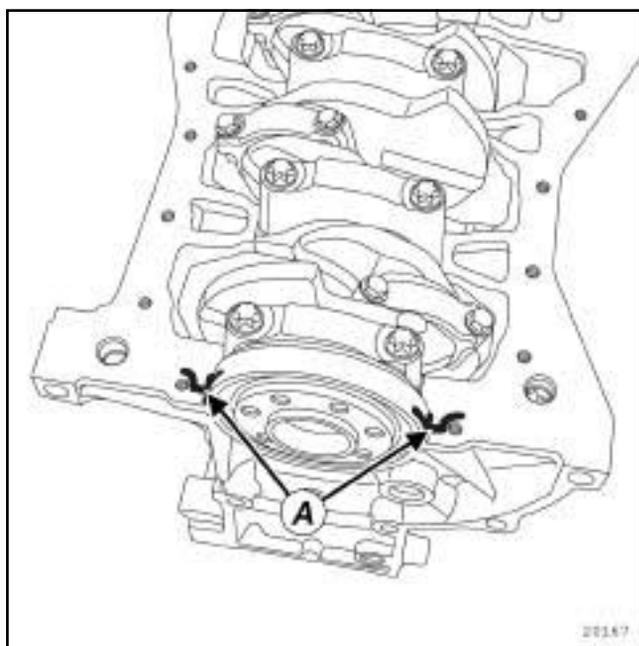
DEFINITION	PACKAGING	PART NUMBER
MECHANICAL SEALANTS		
SILICOR sealing paste	85 g tube	77 11 236 470
MASTIXO Joint face seal	100 g tube	77 11 236 172
BEARING SEALING KIT For crankshaft bearing cap side sealing	Kit	77 11 237 896
SILICONE ADHESIVE SEAL Engine and gearbox sealing paste	100 g cartridge	77 11 227 484
TRANSPARENT SEALING MASTIC	45 g tube	77 11 223 369
SILICOJOINT	90 g tube	77 11 236 469
LOCTITE ADHESIVE 597 Sealing paste for PXX gearboxes	Cartridge	77 11 219 705
RESIN ADHESIVE or SEALING RESIN Sealing resin for engine and gearbox covers	25 ml tube	77 11 237 640
EXHAUST MASTIC For exhaust pipe union seals	1.5 kg tin	77 01 421 161
LEAK DETECTOR	400 ml aerosol	77 11 236 176
ADHESIVES		
FRENETANCHE Sealing the threading at low and medium pressure	50 ml bottle	77 11 236 471
HIGH-STRENGTH THREADLOCK For locking bolts	50 ml bottle	77 11 230 112
SEALING RESIN For locking the bearings	50 ml bottle	77 11 236 472
LUBRICANT CLEANERS		
NÉTELEC Avoid bad contacts in electrical circuits	150 ml aerosol	77 11 225 871

Lower cover: Removal - Refitting

K4J or K4M



20166



20167

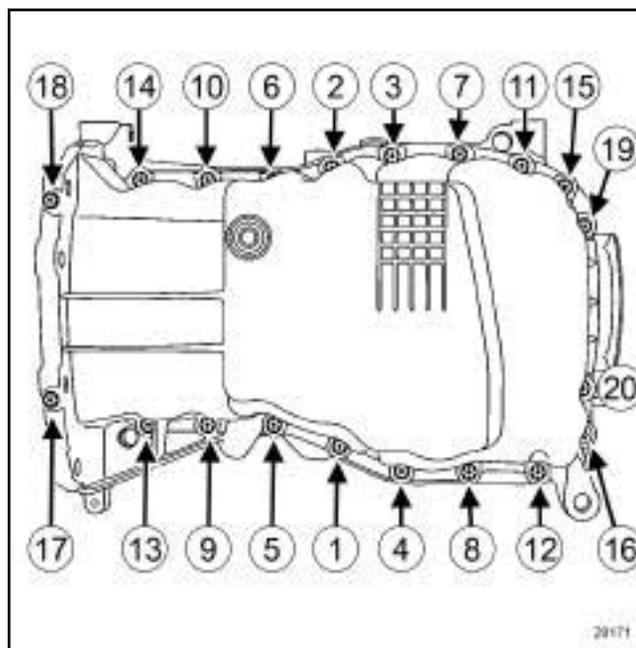
Apply:

- four beads (A) of **MASTIXO** (see **Vehicle: Parts and consumables for the repair**) (04B, Consumables - Products) with a diameter of **5 mm**,
- two drops (B) of **MASTIXO** (see **Vehicle: Parts and consumables for the repair**) (04B, Consumables - Products) with a diameter of **5 mm**.

II - REFITTING OPERATION FOR PART CONCERNED

Refit:

- a new seal on the sump,
- the sump.



20171

- Tighten to torque and in order the **sump bolts (14 N.m)**.
- Tighten to torque the **sump bolts on the gearbox (44 N.m)**.
- Torque tighten the **multifunction support bolt on the sump (25 N.m)**.

III - FINAL OPERATION

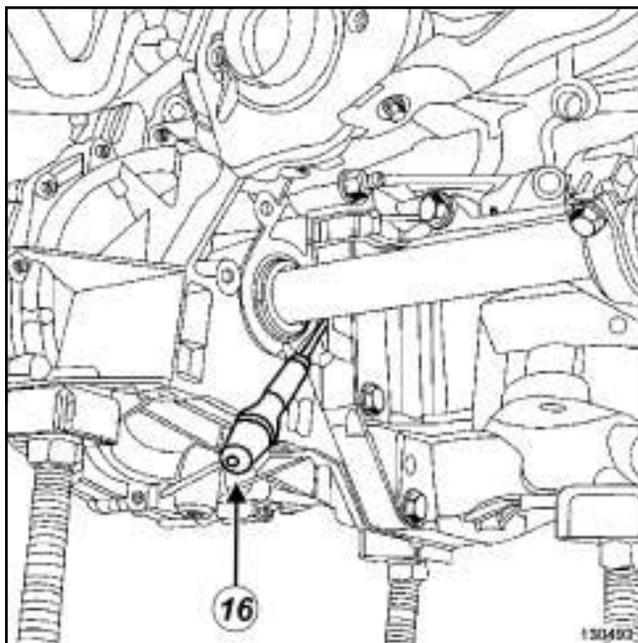
- Fit the front axle subframe by gradually tightening the nuts of the tool (**Tav. 1233-01**).
- One by one, remove the threaded rods of tool (**Tav. 1233-01**) and replace them in turn with new front subframe bolts.
- Tighten to torque:
 - the **front axle subframe rear bolts (105 N.m)**,
 - the **front axle subframe front bolts (62 N.m)**.
- Refit:
 - the bolt for each front axle subframe tie rod,
 - the bolts for each subframe - vehicle body tie rod.
- Fit the steering box.
- Tighten to torque:
 - the **steering box bolts (50 N.m)**,

TOP AND FRONT OF ENGINE

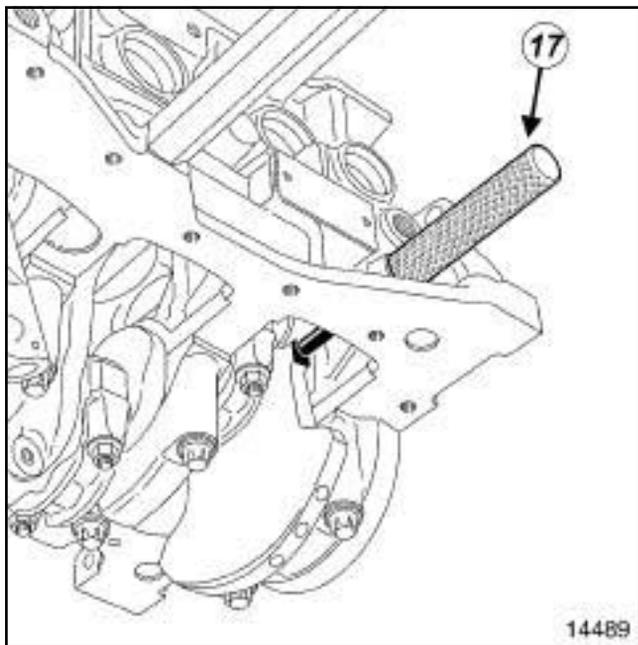
Timing belt: Removal - Refitting

11A

K4J or K4M



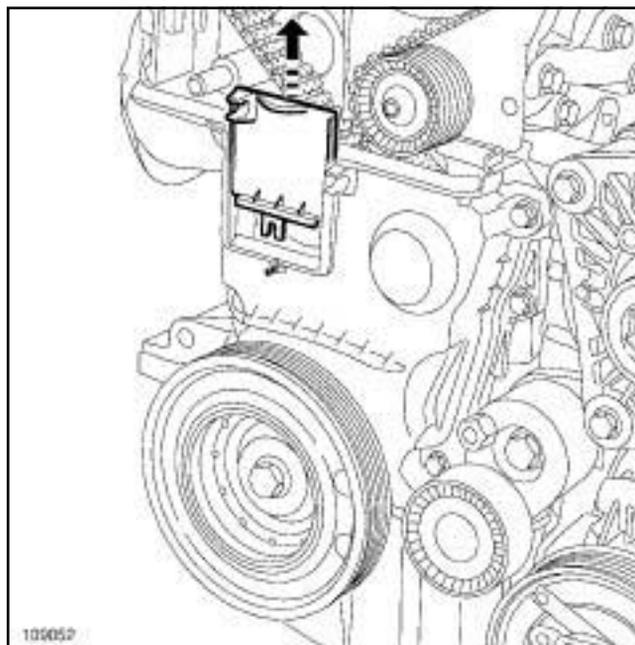
130493



14489

- Use a screwdriver (16) to check that the flywheel does not turn (clockwise at the timing end), otherwise bring the crankshaft back into contact with the tool (Mot. 1489) (17) using the screwdriver; the crankshaft groove should be at the top.
- Torque and angle tighten a **new crankshaft accessories pulley bolt** (40 N.m + 145° ± 15°) (crankshaft in contact with the tool (Mot. 1489)).

c - Lower timing cover with a timing flap



109052

- Remove the timing flap from the lower timing cover.

d - continuation of the refitting procedure regardless of the type of lower timing cover

- Remove:
 - the lifting eye bolt from the (Mot. 1496),
 - the timing tool (Mot. 1496) fitted with the (Mot. 1750),
 - the (Mot. 1489) from the cylinder block.

3 - Checking the tension

- Rotate the crankshaft twice clockwise at the timing end and before aligning the marks made previously by the operator (on the camshaft dephaser), screw the tool (Mot. 1489) into the cylinder block.
- Move the crankshaft slowly and smoothly until it comes into contact with the tool (Mot. 1489).
- Remove the tool (Mot. 1489) from the cylinder block.

Fuel vapour absorber: Removal - Refitting

D4F or K4J or K4M or K7J or K7M

IMPORTANT

During this operation, be sure to:

- refrain from smoking or bringing red hot objects close to the working area,
- be careful of fuel splashes when disconnecting the union.

IMPORTANT

Wear goggles with side protectors for this operation.

IMPORTANT

Wear leaktight gloves (Nitrile type) for this operation.

WARNING

To avoid any corrosion or damage, protect the areas on which fuel is likely to run.

WARNING

Keep the pipe unions away from contaminated areas.

WARNING

To prevent impurities from entering the circuit, place protective plugs on all fuel circuit components exposed to the open air.

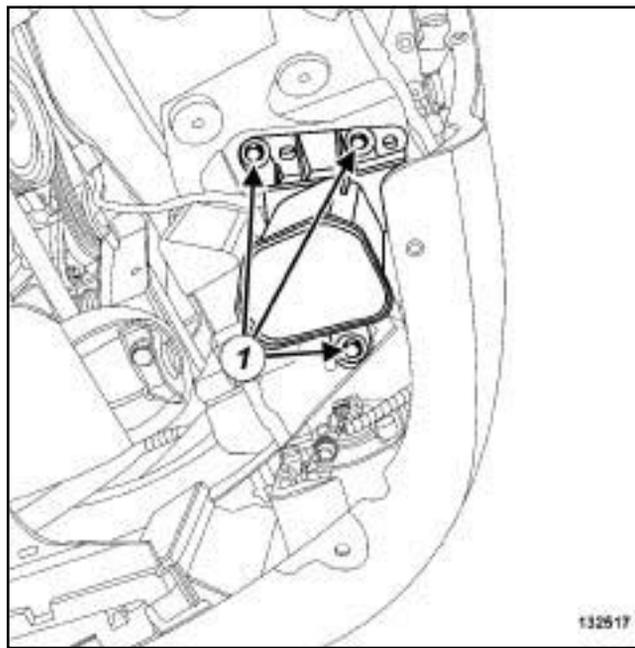
REMOVAL

I - REMOVAL PREPARATION OPERATION

- Position the vehicle on the two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- Disconnect the battery (see **Battery: Removal - Refitting**) (80A, Battery).
- Remove:
 - the front right-hand wheel (see **Wheel: Removal - Refitting**) (35A, Wheels and tyres),

- the front right-hand wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (55A, Exterior protection).

II - OPERATION FOR REMOVAL OF PART CONCERNED



132517

- Remove the bolts (1) from the fuel vapour absorber.
- Move aside the fuel vapour absorber.

DF024 PRESENT OR STORED	<u>LOW-PRESSURE ACTUATOR CONTROL CIRCUIT</u> CO.0: Open circuit or short circuit to earth. CC.1: Short circuit to +12 volts.
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NOTES	Special notes: – If DF024 with CO.0 or CC.1 , the level 1 and 2 warning lights are illuminated. The fuel flow actuator is fully open, there is a clicking, and the engine is stopped to prevent it from racing.
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Check the connection and condition of the **flow actuator connector**, component code **864**.
Check the connection and condition of the **injection computer connector**, component code **120**.
If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation, continuity** and the **absence of interference resistance** on the following connection:
● **3FP** between components **120** and **864**.

If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Measure the **resistance** between connections **3FP** and **3FB** of the **flow actuator**, component code **864**.
Replace the flow actuator if the resistance is not between: **4.8 Ω < X < 5.8Ω** at **20°C**.

If the fault is still present, contact the Techline.

AFTER REPAIR	Deal with any faults displayed by the diagnostic tool . Clear the computer fault memory. Carry out a road test followed by another check with the diagnostic tool .
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Tool fault	Associated DTC	Diagnostic tool name	Level 1 warning light	Level 2 warning light	OBD warning light
DF001	0115	Coolant temperature sensor circuit			1.DEF/2.DEF
DF002	0110	Air temperature sensor circuit			1.DEF/2.DEF
DF008	0225	Pedal potentiometer circuit gang 1	CC.0/CC.1/ 1.DEF/2.DEF		
DF009	2120	Pedal potentiometer circuit gang 2	CC.0/CC.1		
DF011	0641	Sensor supply voltage no. 1	1.DEF		
DF012	0651	Sensor supply voltage no. 2	1.DEF		
DF022	0650	OBD warning light circuit	CC.1 with ignition off/CC.0 continuously lit		
DF037	0633	Immobiliser			
DF038	0606	Computer			
DF040	0201	Cylinder 1 injector circuit			CO/CC.0/CC.1
DF041	0202	Cylinder 2 injector circuit			CO/CC.0/CC.1
DF042	0203	Cylinder 3 injector circuit			CO/CC.0/CC.1
DF043	0204	Cylinder 4 injector circuit			CO/CC.0/CC.1
DF046	0560	Battery voltage			
DF059	0301	Misfiring on cylinder 1			1.DEF/2.DEF
DF060	0302	Misfiring on cylinder 2			1.DEF/2.DEF
DF061	0303	Misfiring on cylinder 3			1.DEF/2.DEF

DF390 PRESENT OR STORED	<u>OXYGEN SENSOR OPERATING FAULT</u> OBD : OBD* fault 1.OBD : OBD fault present 2.OBD : OBD fault detected whilst driving
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NOTES	Conditions for applying the fault finding procedure to stored faults: The fault is declared present after a test which detects a malfunction causing the HC* emissions to exceed the EOBD* threshold . This test can only be performed once during a road test under the following conditions: vehicle speed between 38 mph (63 km/h) and 78 mph (130 km/h) and engine speed between 1800 and 4000 rpm .
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Check that there are no air leaks on the exhaust system .
If the vehicle is mainly used for urban driving, clean the exhaust system .
Check the connection and condition of the upstream oxygen sensor connector, component code 887 . If there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace it.
With the ignition on, check for + 12 V on connection 3FB (for Logan, Sandero, Thalia 2/Symbol 2) or 3NR (for Kangoo VLL) of the upstream oxygen sensor. Check the insulation, continuity and the absence of interference resistance of the following connections: – 3GF between components 887 and 120 , – 3GK between components 887 and 120 , – 3GH between components 887 and 120 . If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair), repair the wiring, otherwise replace it.
Measure the heating resistance of the upstream oxygen sensor. Replace the upstream oxygen sensor if the resistance measured is not approximately 9 Ω at 20°C .

*OBD - On Board Diagnostics

*EOBD - European On Board Diagnostic.

*HC - Hydrocarbons

AFTER REPAIR	Check that all faults have been dealt with. Clear the stored faults. It is not necessary to clear the programming. To check that the system has been repaired correctly: – There must be no remaining electrical faults. – A road test should be performed, but the conditions required for the test may be difficult to recreate in an After-Sales environment.
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**ET405
CONTINUED**

**INACTIVE
(CONTINUED)**

Then check the **continuity** and **absence of interference resistance** of the following connection:

– **86D** between components **120** and **675**.

Check that the **earth** is correct on connection **MAM** (for **Logan, Sandero, Duster**) or **M** (for **Thalia 2/Symbol 2, Clio II F 6**) of component **675**.

If the connection(s) are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the **wiring, otherwise replace it**.

ACTIVE

Check the condition and fitting of the clutch pedal position sensor.

Remove the clutch pedal position sensor, component code **675** (see **MR 388 (Logan and Sandero), Mechanical, 37A, Mechanical component controls, Clutch pedal position sensor: Removal - Refitting** or **MR 451 (Duster) or MR 423 (Thalia 2/ Symbol 2), MR 430 (Clio II F 6), Mechanical, 37A, Mechanical component controls, Clutch pedal: Removal - Refitting**) and check the insulation between connections **MAM** and **86D** of component **675** with the switch in the rest position.

– Repeat this operation with the switch pressed, and check the continuity and the absence of interference resistance between the two connections.

If these 2 checks are not correct, replace the clutch pedal position sensor, component code **675** (see **MR 388 (Logan and Sandero) or 451 (Duster) and MR 423 (Thalia 2/Symbol 2), Mechanical, 37A, Mechanical component controls, Clutch pedal position sensor: Removal - Refitting** or **MR 451 (Duster) or MR 423 (Thalia 2/ Symbol 2), MR 430 (Clio II F 6), Mechanical, 37A, Mechanical component controls, Clutch pedal: Removal - Refitting**).

AFTER REPAIR

Deal with any faults. Clear the faults from the computer memory.

Switch off the ignition and carry out a road test followed by a test with the **diagnostic tool**.

ET122	EXCHANGER FLOW CONTROL SOLENOID VALVE
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STATUS DEFINITION	<p>The status of the exchanger flow control solenoid valve displays ACTIVE in the following conditions: temperature of the gearbox oil greater than 100°C, engine speed of rotation greater than 2000 rpm. With other conditions, the solenoid valve status displays INACTIVE.</p>
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NOTES	<p>There must be no present or stored faults.</p>
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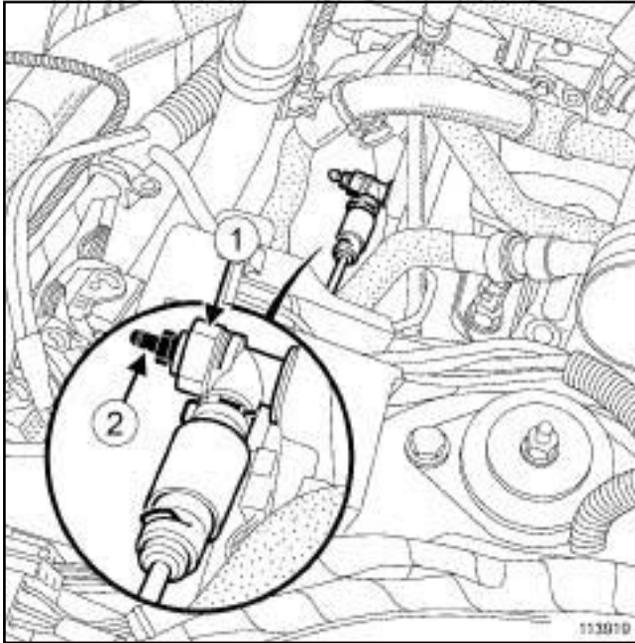
<p>Disconnect the computer. Check the cleanliness and condition of the connections. If the connectors are faulty and if there is a repair procedure (see Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair), repair the connector, otherwise replace the wiring. Check the continuity of the following connections: – Connection code 5DD between components 119 and 1019, – Connection code 5DN between components 119 and 1019. If the connection or connections are faulty and there is a repair procedure (see Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair), repair the wiring, otherwise replace it. Measure the resistance relating to component code 1019 between connection codes 5DD and 5DN. The resistance of the exchanger flow control solenoid valve is between 38 Ω and 42 Ω at approximately 23°C.</p>
<p>If the resistance is greater than 50 Ω, check the wiring harness, the computer connector and the "modular connector".</p>
<p>If the status of the command fails to change, use the interpretation of fault DF017 Exchanger flow solenoid valve circuit.</p>

Clutch circuit: Bleed

JH3 or JR5

There are several versions of bleed screw:

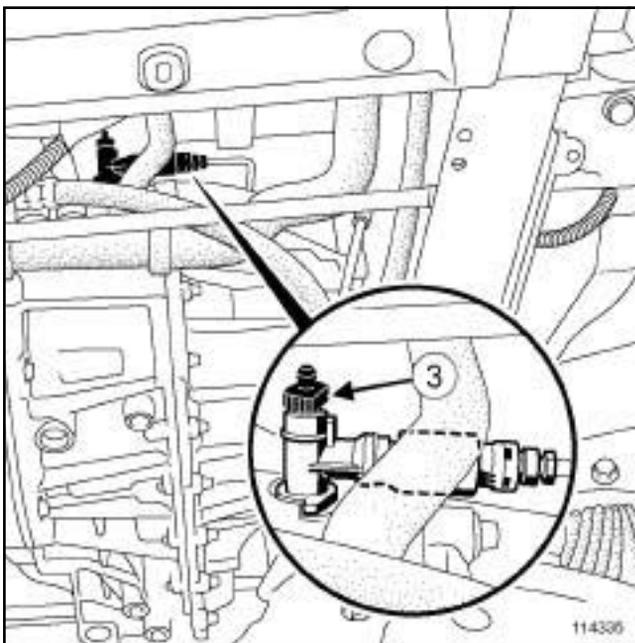
Screw type bleed screw.



113919

- To open the bleed screw, hold the plastic union (1) using a ring spanner and undo the bleed screw (2) .

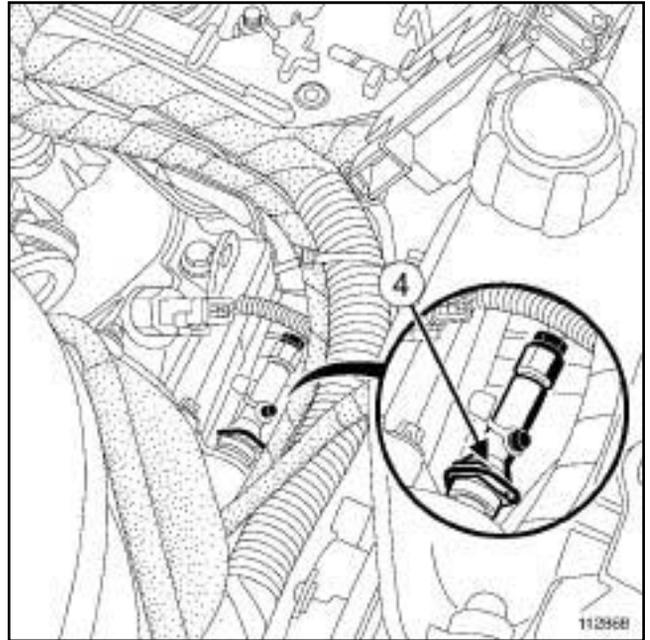
Half-turn bleed screw.



114335

- To open the bleed screw, fully turn the bleed screw (3) by hand.

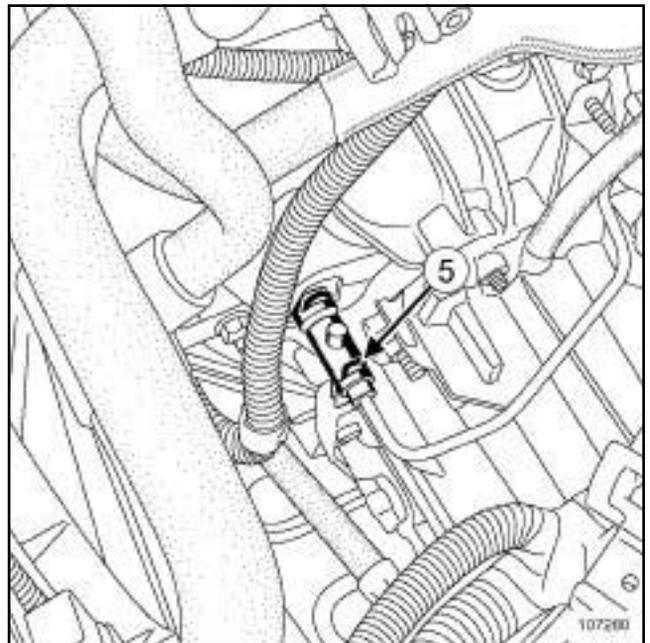
Bleed screw with a clip.



112868

- To open the bleed screw, press and hold the clip (4) while pulling by one notch.

Bleed screw with a clip.



107280

- To open the bleed screw, lift the clip (5) while pulling by one notch.

SIDE OPENING ELEMENTS

Front side door: Adjustment

47A

L35

Essential special tooling

Car. 956	Door hinge aligning tool.
Ms. 580	Large slide hammer.

Note:

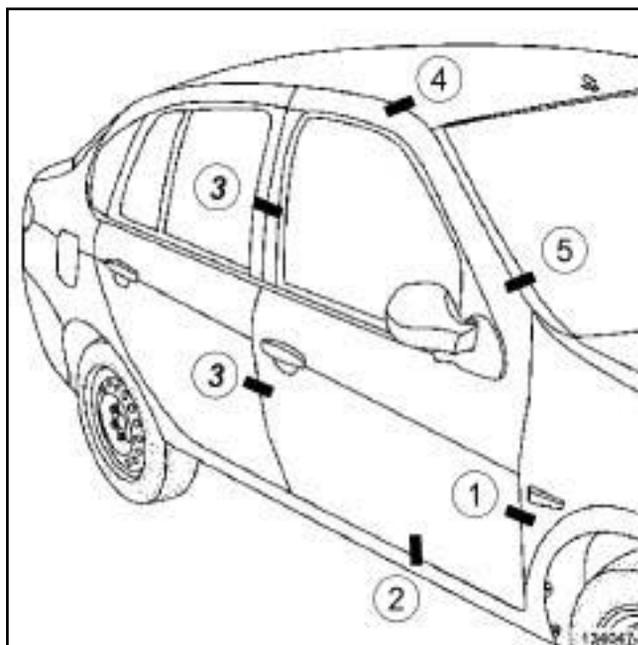
When replacing the door or replacing the body but refitting the original opening elements, it is necessary to use the specific **After-Sales** screw hinges which enable the height of the rear door to be adjusted.

ADJUSTMENT VALUES

- For information on the front side door adjustment values (see **Vehicle clearances: Adjusting**) (01C, Vehicle bodywork specifications).

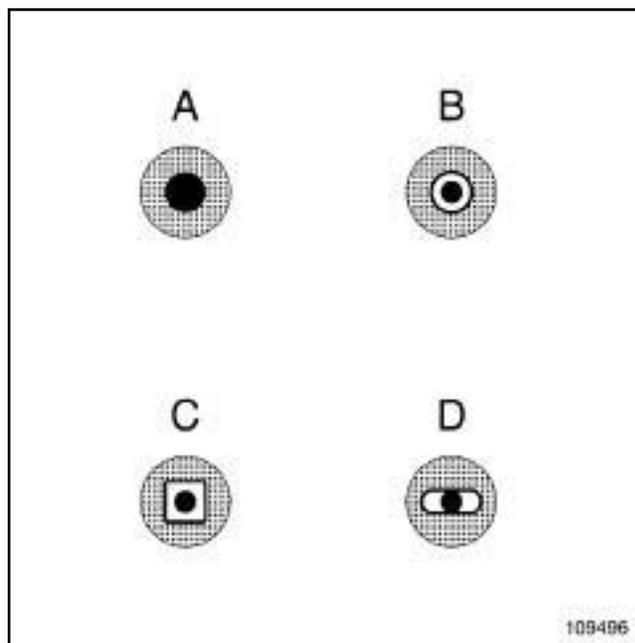
ADJUSTMENT

- There are three options for adjusting the front side door:
 - by adjusting the mountings on the inner door panel,
 - by adjusting the mountings on the A-pillar (this operation requires the front wing and front side door to be removed),
 - by adjusting the front side door striker panel.



134047

- Respect the following adjustment order (1) , (2) , (3) , (4) and (5) .



109496



Note:

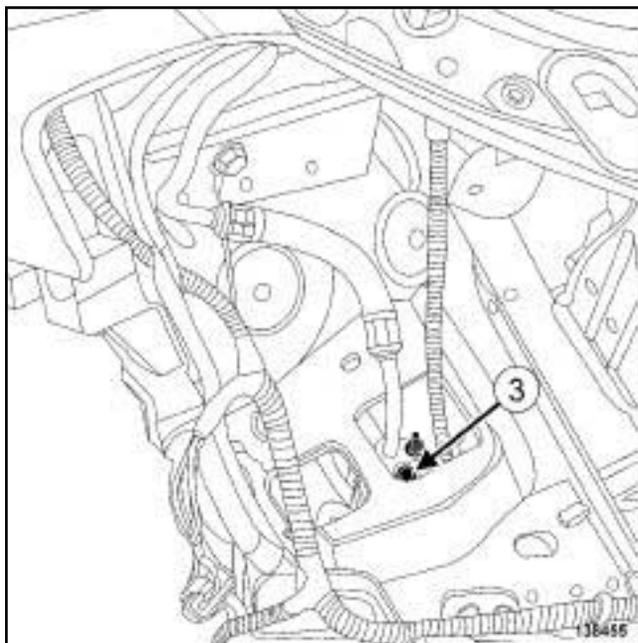
Symbols A, B, C and D show the adjustment options.

The black dot in the centre represents the body of the bolt.

The grey section represents the component to be adjusted.

The white section represents the adjustment area.

K9K, and 718, and AIR CONDITIONING or CLIMATE CONTROL



138455

- Remove the bolt (3) from the « condenser - dehydrator reservoir » connecting pipe bracket on the dehydrator reservoir.

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

- Disconnect:
 - the « condenser - dehydrator reservoir » connecting pipe on the dehydrator reservoir,
 - the « condenser - dehydrator reservoir » connecting pipe on the condenser.
- Remove the « condenser - dehydrator reservoir » connecting pipe.
- Fit blanking plugs on:
 - the « condenser - dehydrator reservoir » connecting pipe,
 - the condenser,
 - the dehydrator reservoir.

REFITTING

I - REFITTING PREPARATION OPERATION



WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the seal. The surface must be clean and scratch free.

- Remove the blanking plugs.

II - REFITTING OPERATION FOR PART CONCERNED

- Refit the « condenser - dehydrator reservoir » connecting pipe.
- Connect:
 - the « condenser - dehydrator reservoir » connecting pipe to the dehydrator reservoir,
 - the « condenser - dehydrator reservoir » connecting pipe to the condenser.
- Connect the pressure sensor connector.

III - FINAL OPERATION

- Consult the amount of refrigerant and oil required before filling the refrigerant circuit (see **62A, Air conditioning, Air conditioning: Parts and consumables for the repair work**, page 62A-2) .
- Perform the following operations:
 - refill the refrigerant circuit using the **refrigerant charging station** (see **62A, Air conditioning, Coolant circuit Draining - Refilling**, page 62A-8) ,
 - check for leaks (see **62A, Air conditioning, Coolant circuit check**, page 62A-7) .
- Check the air conditioning system is operating correctly (see **62A, Air conditioning, Air conditioning: Check**, page 62A-4) .
- Refit:
 - the right-hand headlight (see **Front headlight: Removal - Refitting**) (80B, Headlights),

3. REMINDERS

Procedure

To run diagnostics on the vehicle computers, switch on the ignition using the key.

Faults

Faults are declared present or stored (depending on whether they appeared in a certain context and have disappeared since, or whether they remain present but are not diagnosed within the current context).

The **present** or **stored** status of faults must be considered when using the **diagnostic tool** after switching on + **after ignition feed** (without activating any system components).

For a **present fault**, apply the procedure described in the **Interpretation of faults** section.

For a **stored fault**, note the faults displayed and apply the **Notes** section.

If the fault is **confirmed** when the instructions are applied, the fault is present. Deal with the fault.

If the fault is **not confirmed**, check:

- the electrical lines which correspond to the fault,
- the connectors on these lines (corrosion, bent pins, etc.),
- the **resistance** of the faulty component,
- the condition of the wires (melted or cut insulation, wear).

Conformity check

The conformity check is designed to check the statuses and parameters that do not display any faults on the **diagnostic tool** when they are inconsistent. Therefore, this stage is used to:

- carry out fault finding on faults that do not have a fault display, and which may correspond to a customer complaint,
- check that the system is operating correctly and that there is no risk of a fault recurring after repair.

This section gives the fault finding procedures for statuses and parameters and the conditions for checking them.

If a status is not behaving normally or a parameter is outside permitted tolerance values, you should consult the corresponding fault finding page.

Customer complaints - Fault finding chart

If the test with the **diagnostic tool** is OK but the customer complaint is still present, the fault should be dealt with by **customer complaints**.

A summary of the overall procedure to follow is provided on the following page in the form of a flow chart.