



Kangoo Clio

Type

S/Section

XCX	X
XBX	X

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SPECIAL FEATURES OF THE BOSCH 8.0 ABS SYSTEM

- Engine: XXX
- Gearbox: XXX

Basic manuals:
Workshop Repair Manuals 325 and 345

You will find the special notes relating to the BOSCH 8.0 ABS system for the Clio and Kangoo in this note.

"The repair methods given by the manufacturer in this document are based on the technical specifications current when it was prepared.

The methods may be modified as a result of changes introduced by the manufacturer in the production of the various component units and accessories from which his vehicles are constructed".

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Equipment required
Brake circuit bleeding device (approved by RENAULT)
Fault finding tool



To ensure correct operation, a brake circuit must be free of gas (external air, water vapour etc.). Whenever the circuit has been opened, therefore, the air contained in the circuit must be flushed once the circuit is closed.

As the brake fluid ages (see maintenance intervals) it absorbs a significant amount of humidity which may create water vapour in the circuit, in certain extreme conditions. This ageing process means that the circuit must be drained completely and then the air contained in it must be flushed.

Prerequisites for any bleeding of air from the brake circuit:

- make sure that the circuit is sealed,
- fill the brake fluid reservoir (1) to its maximum level,
- depress the brake pedal several times to bring the moving parts of the braking system into contact (pistons, brake shoes, discs),
- add brake fluid (1) to top up the level in the tank,
- set up the bleeding device and top up the brake fluid level (1) to maximum (refer to the driver's handbook, the recommended pressure being between **2 bar** and **2.5 bar**).

There are two different types of brake circuit air bleeding operations:

- a conventional air bleed, which does not allow bleeding of air from the hydraulic unit regulation circuit (2);
- an air bleed from the hydraulic unit regulation circuit (2); this should only be carried out if the brake pedal travel is considered correct following conventional bleeding (3) but is then incorrect after a road test.

- (1) Brake fluid **SAE J 1703 DOT4**.
- (2) The control circuit is an internal part of the hydraulic unit. It is isolated from the conventional circuit until the solenoid valves are activated by the computer or the fault finding tool.
- (3) Confirmed by a road test with the hydraulic unit regulation in operation.

Equipment required
Brake circuit bleeding device (approved by Renault)
Fault finding tool

Precautions to be taken during the brake circuit bleeding operation:

- Check the brake fluid levels of the braking circuit and the bleeding device.
- The brake adjustment circuit must be free of all hydraulic and electrical faults.

1 - BRAKING CIRCUIT BLEED OTHER THAN THE CONTROL CIRCUIT

WARNING

Specific precaution to take during the brake circuit draining operation: the vehicle ignition must be switched off in order not to activate the hydraulic assembly solenoid valves.

This procedure must be used after one of the following components has been removed or replaced:

- the master cylinder,
- the brake fluid,
- the hydraulic assembly (new and pre-filled),
- a rigid pipe,
- a hose,
- the reservoir,
- a calliper.

Put the vehicle on a two post lift.

Connect the air bleeding device to the vehicle brake fluid reservoir (refer to the driver's handbook for the vehicle).

Fit the bleed reservoirs to the bleed screws.

Bleed the circuit by opening the bleed screws in the following order (remember to close them after the operation):

- the rear right hand circuit,
- the front left hand circuit,
- the rear left hand circuit,
- the front right hand circuit.

With the engine switched off, check the pedal travel, if it is not correct, restart the bleeding procedure.

Top up the brake fluid level in the reservoir after disconnecting the bleeding device. Check the tightness of the bleed screws and that the sealing caps are all present.

During a road test, trigger brake regulation to confirm that the brake pedal travel is correct. If the pedal travel becomes incorrect during the road test, follow the bleeding procedure for the brake regulation circuit.

II - BLEEDING THE BRAKE ADJUSTMENT CIRCUIT

This procedure can be applied after a road test with brake regulation during which the pedal travel becomes incorrect.

Put the vehicle on a two post lift.

Connect (see driver's handbook for the device):

- the **brake circuit bleeding device (approved by Renault)** to the vehicle brake circuit,
- the **fault finding tool**.

Fit the bleed reservoirs to the bleed screws.

Bleed the control circuit using the **fault finding tool**.

Activate command **SC006 "Bleed the hydraulic unit and brake circuits"**.

Follow the instructions for the "fault finding tool".

Note:

Throughout the bleeding procedure, depress and release the brake pedal (pumping action).

Disconnect the bleeding device.

Top up the brake fluid level in the reservoir.

Check the tightness of the bleed screws and that the sealing caps are all present.

During a road test, trigger brake regulation to confirm that the brake pedal travel is correct. If the pedal travel becomes incorrect during the road test, follow the bleeding procedure for the brake regulation circuit.

It is therefore possible to use a quantity of brake fluid greater than the capacity of the circuit.

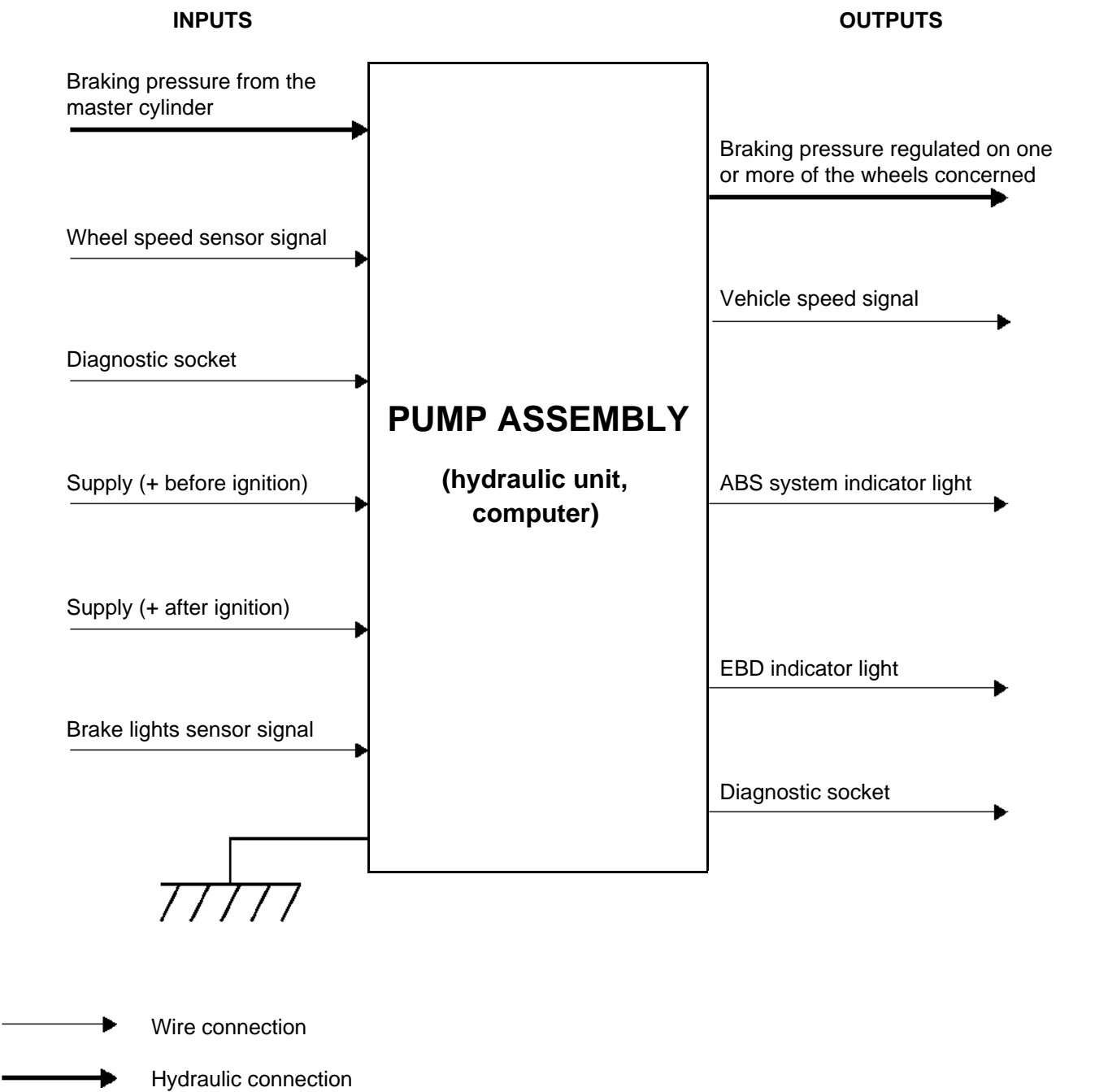
The vehicle is equipped with the BOSCH 8.0 system which consists of the anti-lock braking system only.

IMPORTANT

After any operations on the ABS, the vehicle must be road tested to confirm the repair

The anti-lock braking system consists of:

- a brake servo assembly,
- a pump assembly consisting of:
 - a hydraulic pump,
 - a pressure modulation unit (eight solenoid valves),
 - a computer,
- four wheel sensors.



ANTI-LOCK BRAKING SYSTEM

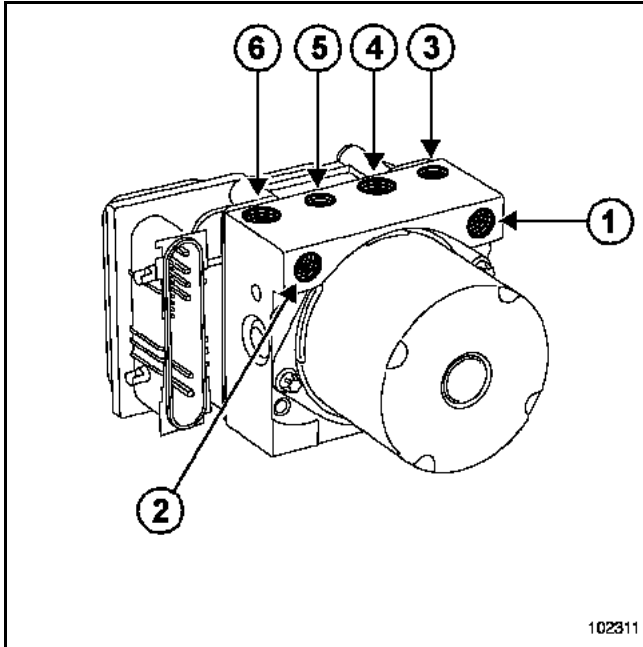
Hydraulic unit: presentation

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The anti-lock braking system pump assembly is equipped with a **26-track** computer.

Note:

The computer cannot be separated from the hydraulic unit.



The hydraulic unit consists of eight solenoid valves. It is located between the bulkhead and the engine.

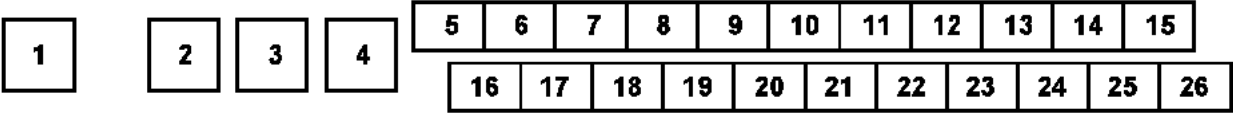
- 1 master cylinder primary circuit
- 2 master cylinder secondary circuit
- 3 output to the left hand front wheel
- 4 output to the front right hand wheel
- 5 output to the offside rear wheel
- 6 output to the nearside rear wheel

ANTI-LOCK BRAKING SYSTEM

Computer: connection

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Note:
The computer cannot be separated from the hydraulic unit.



Track	Description
1	Pump motor earth
2	Engine pump power (+ before ignition)
3	Solenoid valve power (+ before ignition)
4	Solenoid valves and computer
5	Front left-hand speed sensor signal
6	Rear left-hand speed sensor power supply
7	Not used
8	Rear right hand speed sensor power supply
9	Front right hand speed sensor power supply
10	Front right-hand speed sensor signal
11	Line K
12	EBD indicator light
13	Not used
14	Not used
15	Not used
16	Front left-hand speed sensor supply
17	Rear left-hand speed sensor
18	12 V after ignition
19	Rear right-hand speed sensor signal
20	Brake lights switch
21	Not used
22	ABS system indicator light
23	Vehicle speed wire connection
24	Not used
25	Not used
26	Not used

ANTI-LOCK BRAKING SYSTEM

Front wheel speed sensor

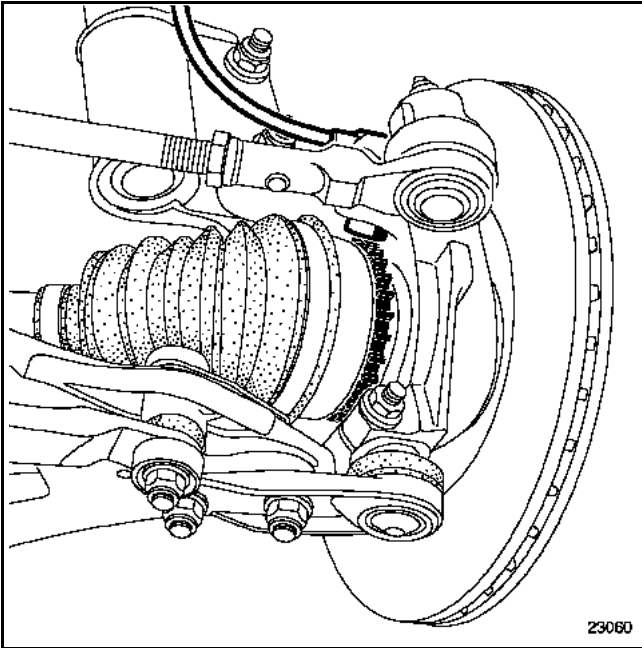
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Tightening torques



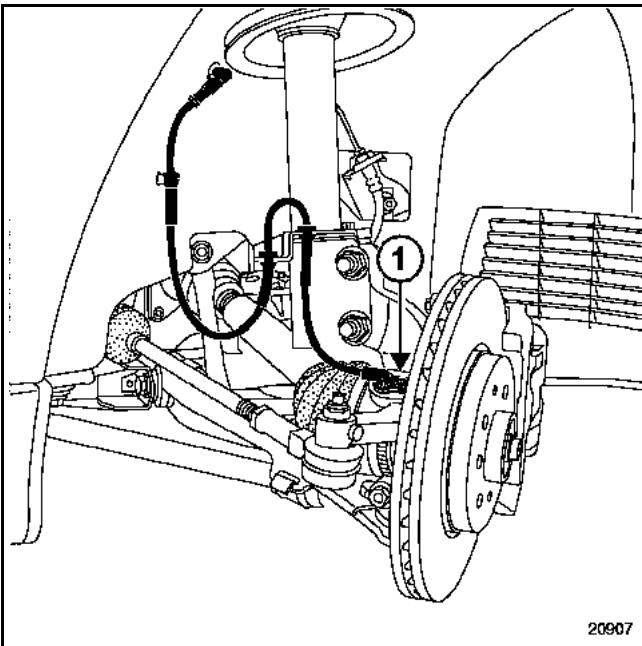
sensor mounting bolt

0.8 ± 0.2 daNm



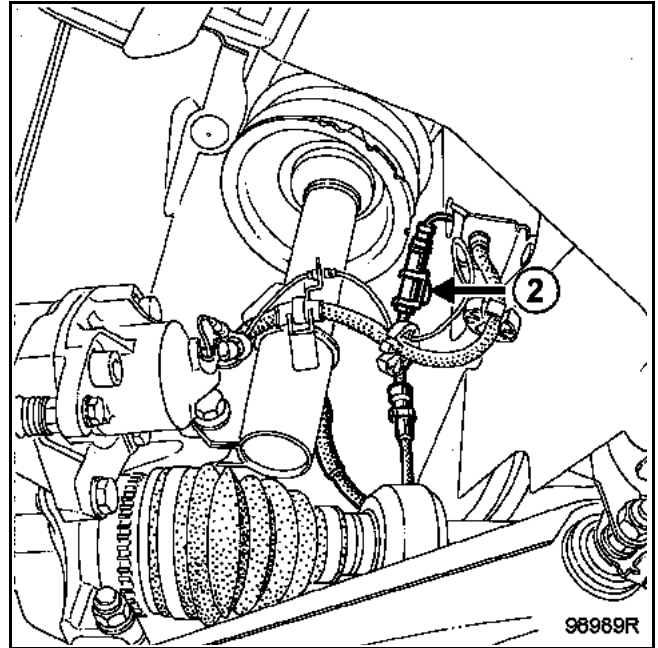
The sensor - target air gap must be between **0.15 mm** and **1.85 mm**.

REMOVAL



Remove:

- the wheel,
- the sensor mounting bolt (1).



Unclip the connector (2) from the mounting.

Disconnect the wheel sensor connector.

Remove the wheel speed sensor.

REFITTING

Coat the sensor with multipurpose grease.

Proceed in the reverse order to removal.

The air gap on one target rotation can be checked using a set of shims.

Note:

It is essential to make sure the connector is perfectly connected to avoid any risk of a fault.

WARNING

The sensor must be fitted manually. Do not knock it during installation. Do not hold or pull the sensor wiring.

ANTI-LOCK BRAKING SYSTEM

Rear wheel speed sensor

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Tightening torques

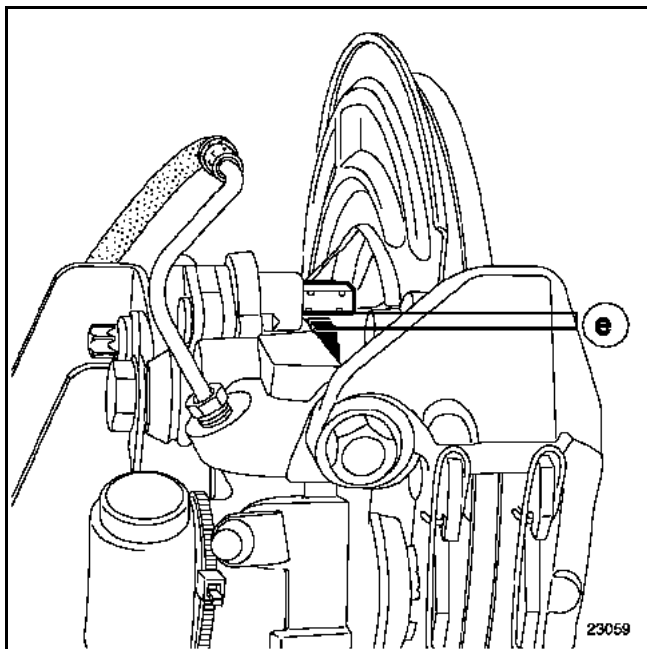


sensor mounting bolt

0.8 ± 0.2 daNm

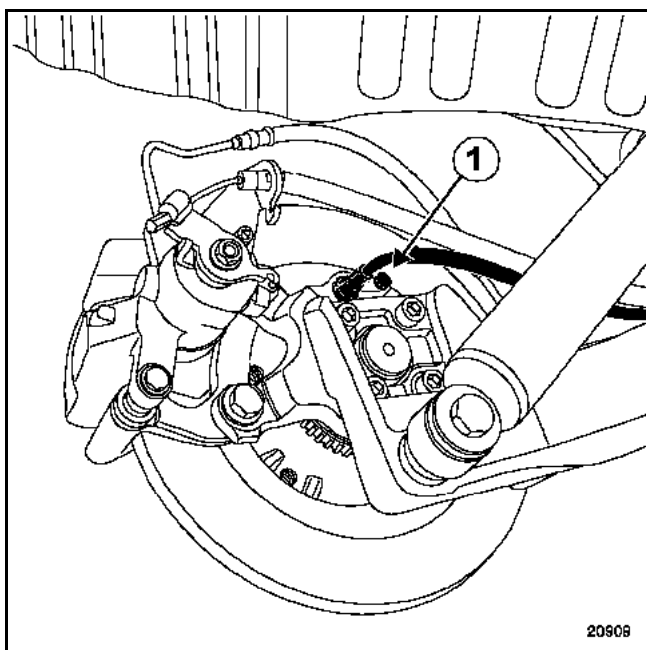
Note:

The sensor - target air gap of the brake drums cannot be measured.



The sensor - target air gap must be between **0.15 mm** and **1.50 mm**.

REMOVAL



Remove:

- the wheel,
- the sensor mounting bolt (1).

Remove the connector from the support.

Disconnect the wheel sensor connector.

Remove the wheel speed sensor.

REFITTING

Coat the sensor with multifunction grease.

Proceed in the reverse order to removal.


The air gap on one target rotation can be checked using a set of shims.

Note:

It is essential to make sure the connector is perfectly connected to avoid any risk of a fault.

WARNING

The sensor must be fitted manually. Do not knock it during installation. Do not hold or pull the sensor wiring.

Tightening torques		
pipe union	M10 X 100	1.7 daNm
	M12 X 100	1.7 daNm

REMOVAL

Put the vehicle on a two post lift.

Disconnect the battery.

Remove the front right hand wheel.

Engine compartment side

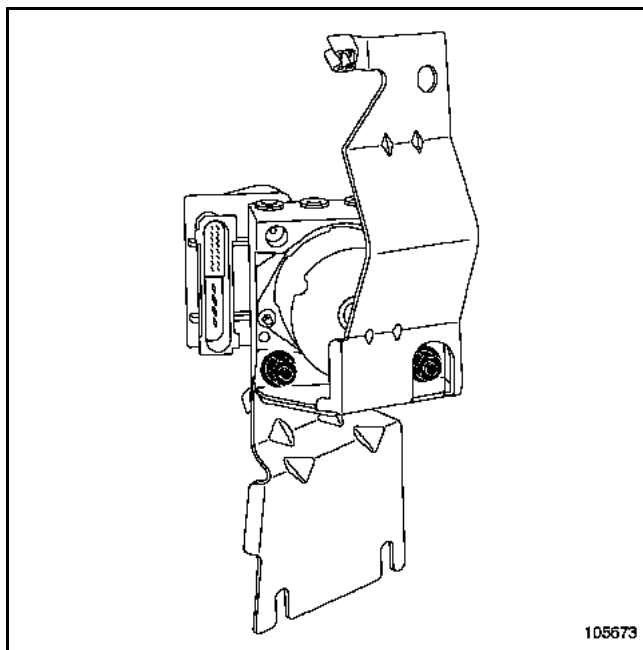
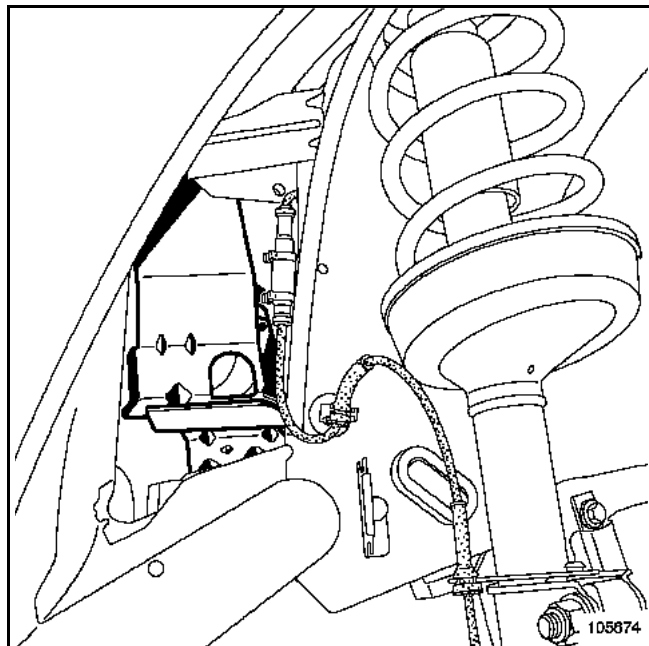
Remove the heat shield from the bulkhead.

Disconnect the computer connector.

Remove the earth bolt.

Disconnect the four pipes from the top of the hydraulic unit, marking their position for refitting.

Front right wheel arch side



Remove the hydraulic unit mounting nuts on the support.

Engine compartment side

Remove the brake pipes without kinking them and the hydraulic unit to access the inlet pipes from the master cylinder on the hydraulic unit.

Disconnect both pipes from the side of the hydraulic unit, marking their position for refitting.

Remove the hydraulic unit via the wheel arch.

REFITTING

Proceed in the reverse order to removal.

Bleed the brake circuit (see "Bleeding the brake circuit").