

31st JANUARY 1995

REF.

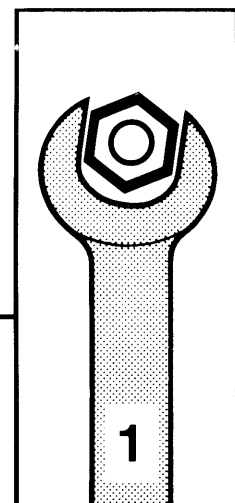
1 No XM 230-00/4

ABONNEMENT GME

DK5 ENGINE

● COOLING CIRCUIT

MAN 058931



GB



AUTOMOBILES CITROËN
DIRECTION COMMERCE EUROPE
DOCUMENTATION APRES VENTE

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DATA - IDENTIFICATION : COOLING SYSTEM

COOLING

1 - SETTING OF UNITS

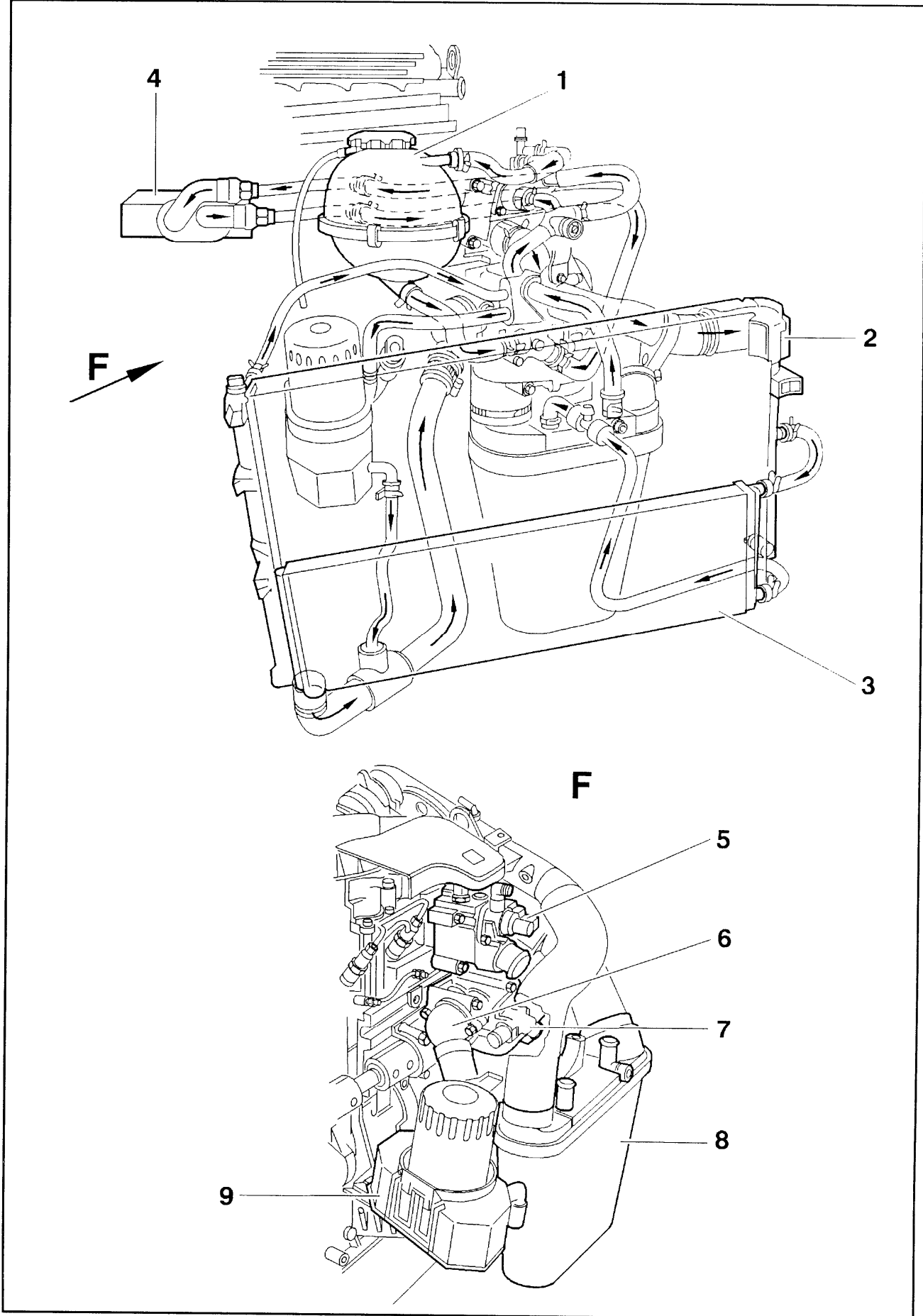


Fig : B1GP01RP

COOLING

- (1) – de-aeration chamber.
- (2) – main radiator.
- (3) – low temperature radiator.
- (4) – heater matrix.
- (5) – coolant outlet housing (on the cylinderhead).
- (6) – thermostat.
- (7) – coolant pump (on the cylinder block).
- (8) – water-to-air heat exchanger.
- (9) – water-to-oil heat exchanger.

2 – DATA – COOLING SYSTEM

Capacity of the cooling circuit : 13 litres (approximately).

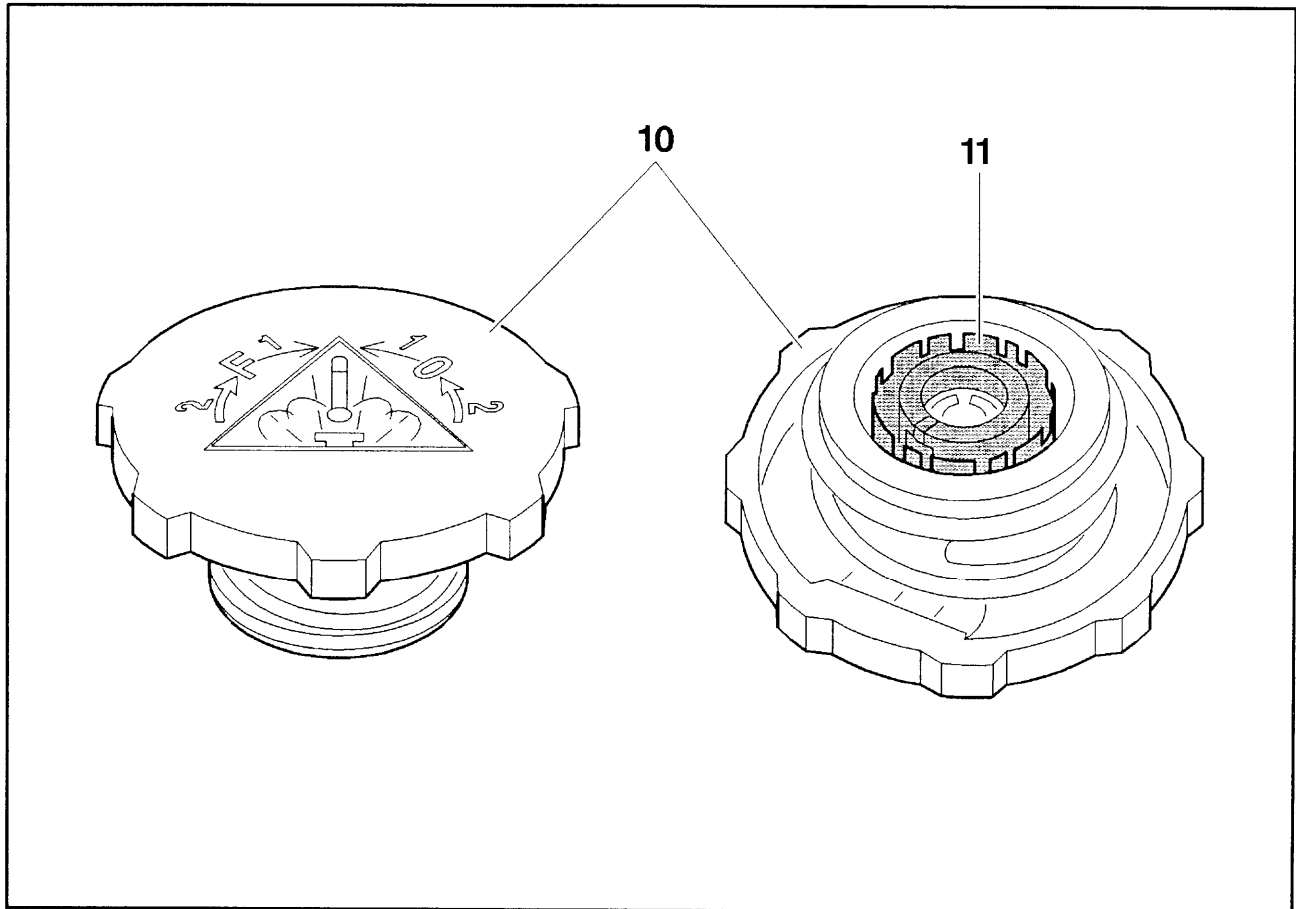


Fig : B1GP01SD

(10) filler plug / de-aeration chamber.

(11) ring.

Colour of the ring : mauve, calibration pressure :
1.4 bar.

COOLING

2.1 – Coolant outlet housing

The tightening torque for the coolant outlet housing sensors and plugs is 1.8 m.daN + loctite FRENETANCH.

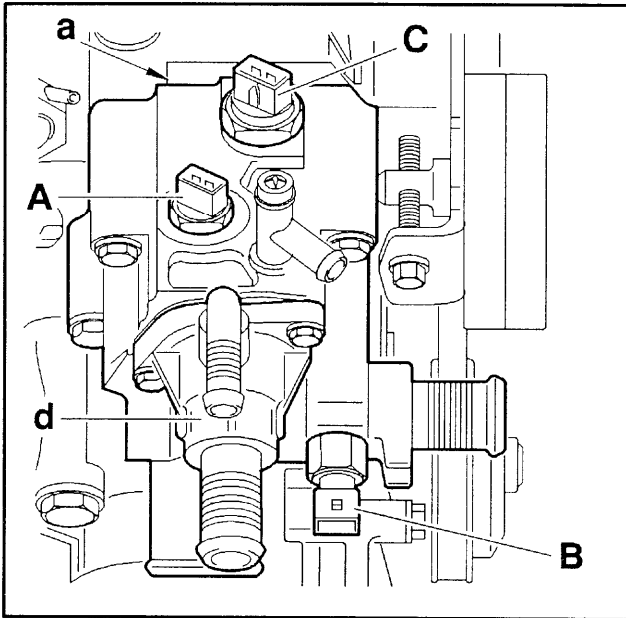


Fig : B1GP01TC

"a" – towards the cylinderhead.

"d" – thermostat.

Water temperature sensor :

	A	B	C
Sensor	Temperature sensor	Temperature sensor – thermal switch	Temperature sensor
Data	Pre-post heating, injection	Gauge and warning (118°C)	Water temperatures centralization control unit
Connector colour	Green	Blue	Brown
Colour of the ring	Yellow		

COOLING

2.2 – Coolant pump

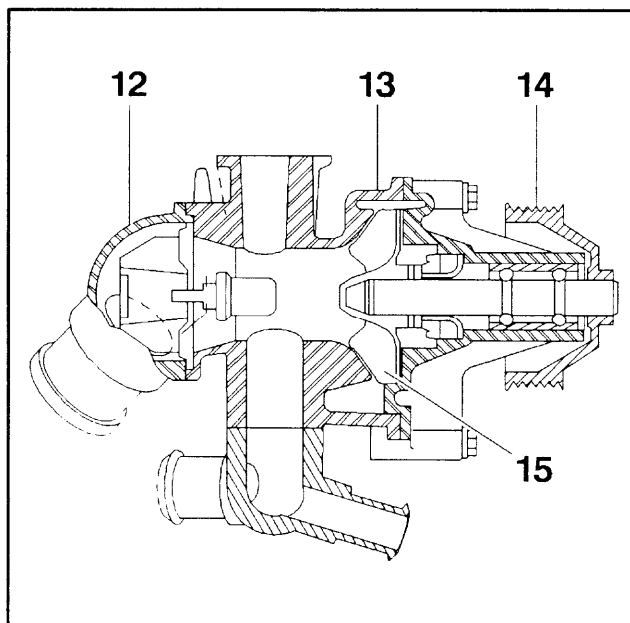


Fig : B1GP00XC

(12) water pump cover.

(13) pump body.

(14) pump pulley.

(15) turbine.

The water pump is driven by the camshaft pulley via a drive belt.

2.3 – Thermostat

Operation readings.

Main thermostat :

- starts to open at: 85°C
- fully open at: 100°C

Secondary thermostat :

- starts to open at: 84°C
- fully open at: 88°C

2.4 – Radiator

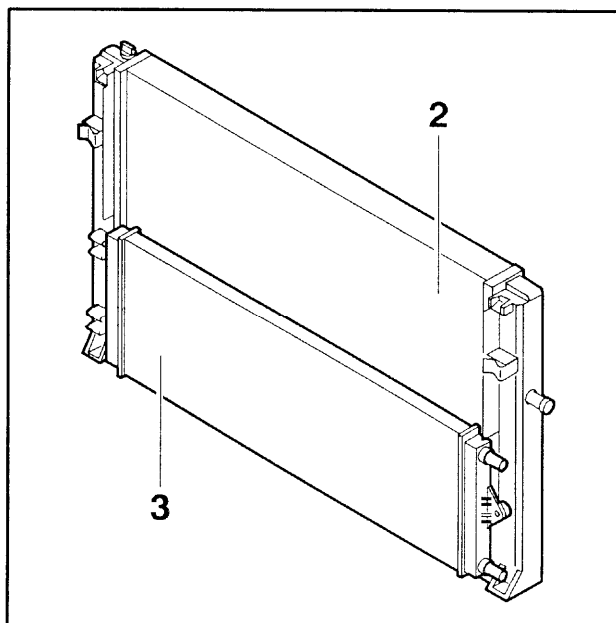


Fig : B1GP01UC

(2) main radiator – area : 26 dm².

(3) low temperature radiator – area : 11 dm².

2.5 – Fans

The vehicle is equipped with 2 electric cooling fans.

Fan			Post-cooling
1st cooling fan		2nd cooling fan	
1st speed	2nd speed	2nd speed	105°C
98°C – 93°C	101°C – 98°C	101°C – 98°C	For 6 minutes (max.)
310 W		310 W	

2.6 – Water-to-oil heat exchanger

13 elements.

DRAINING – FILLING – BLEEDING : COOLING SYSTEM

1 – RECOMMENDED TOOLS

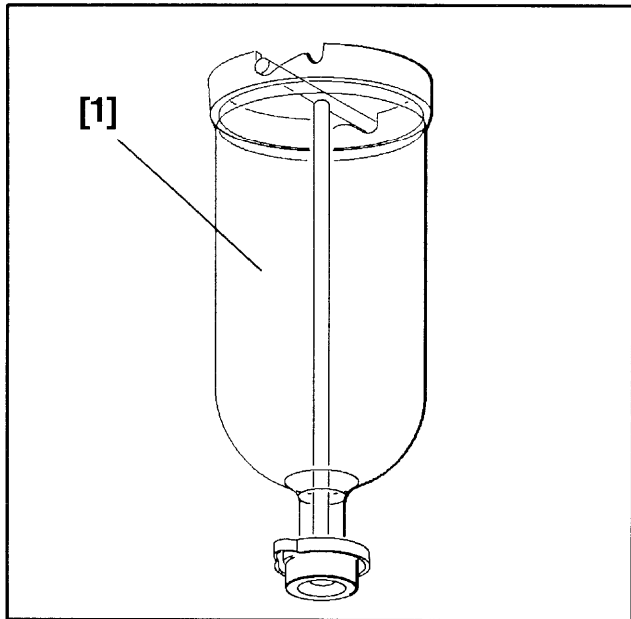


Fig : B1GP00AC

[1] filling cylinder 4520-T.

2 – DRAINING

Remove the header tank plug cautiously (with engine cold).

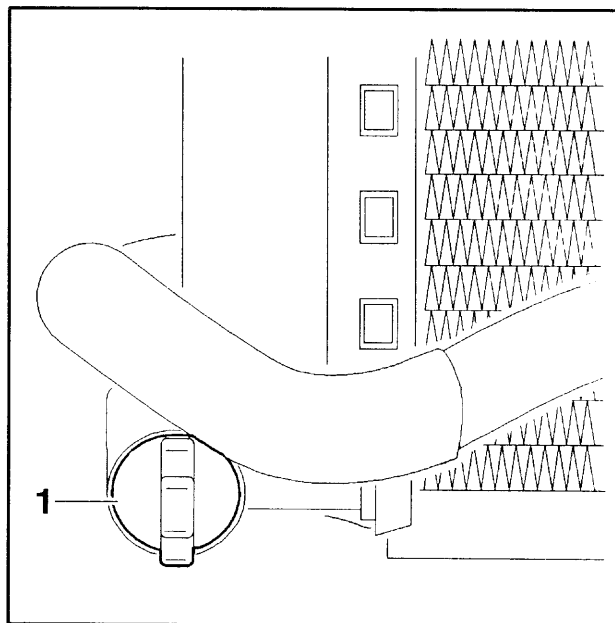


Fig : B1GP01GC

Open drain screw (1) to drain the radiator.

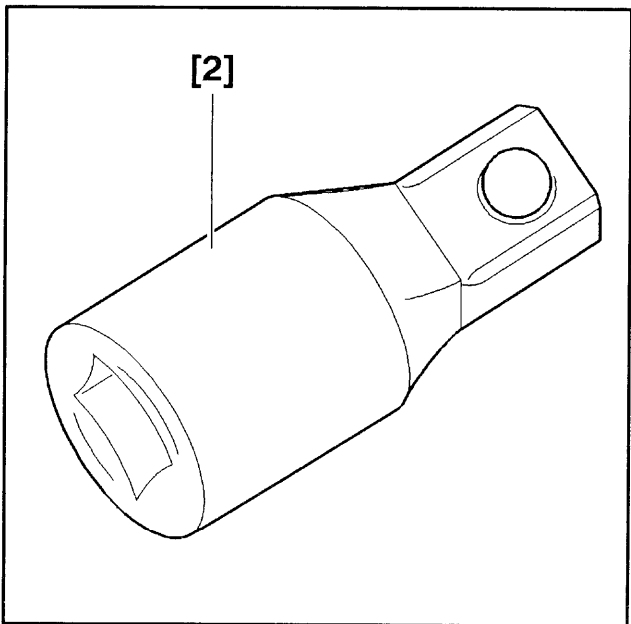


Fig : E5-P04FC

[2] 6 mm 5711TN square ended tool (tool box 5711-T).

COOLING

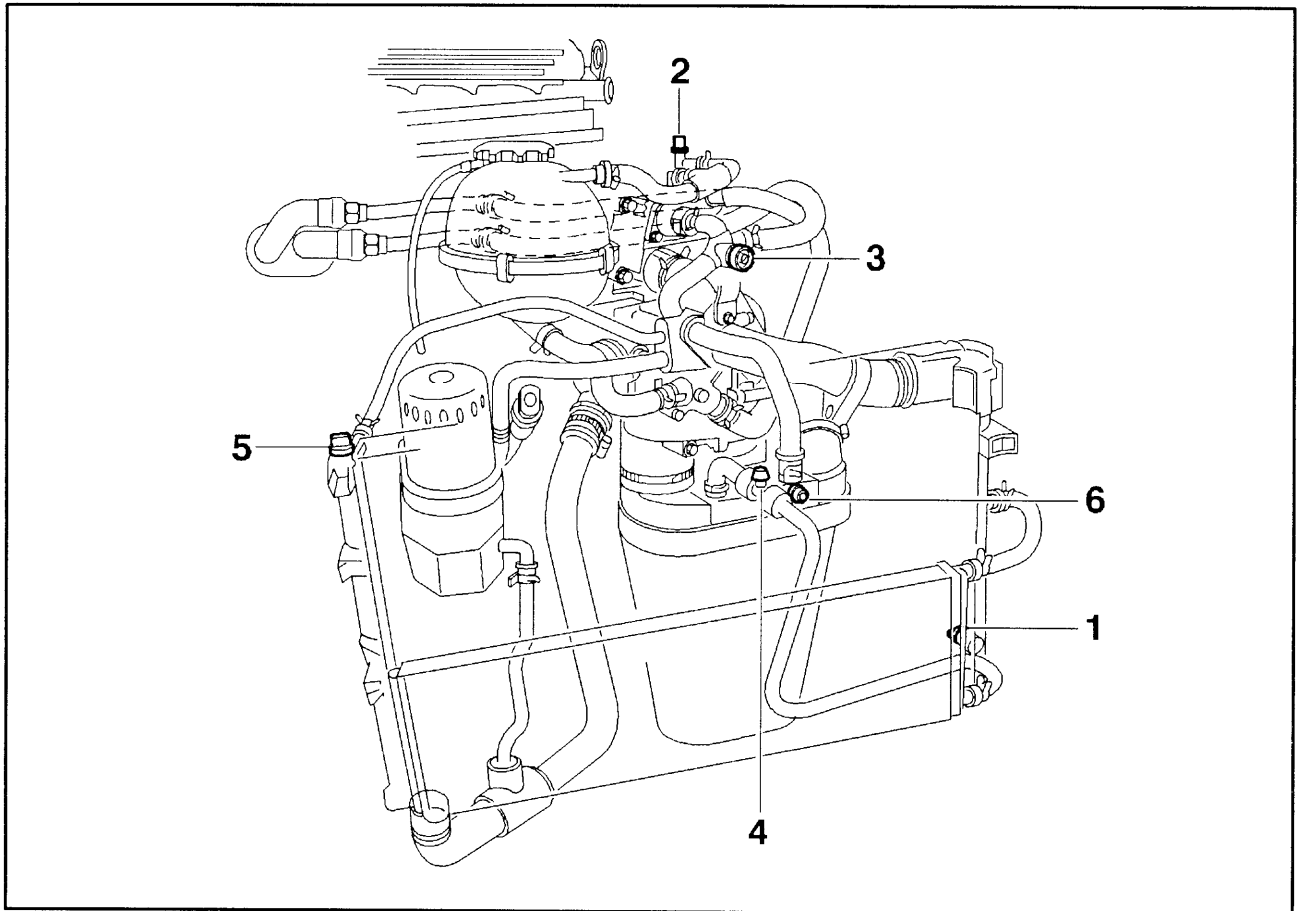


Fig B1GP01HD

Open the bleed screws (2),(3),(4),(5),(6).

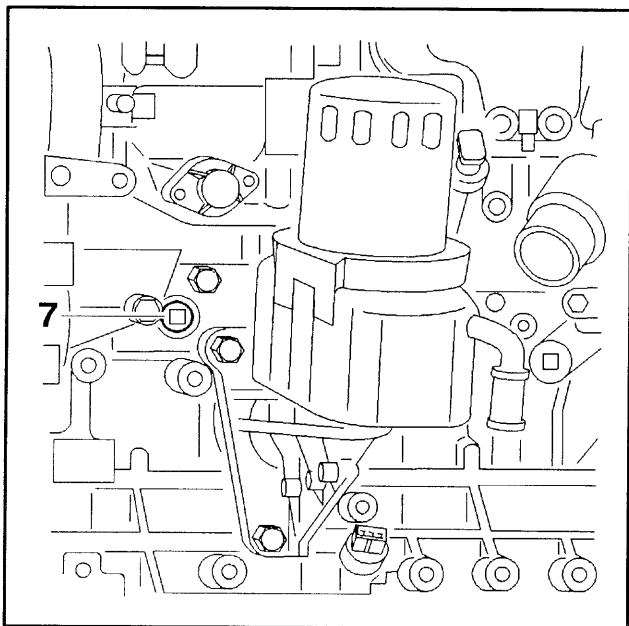


Fig : B1GP01JC

Take out drain plug (*) in order to drain the cylinder block (7) utilising tool [2].

3 – FILLING AND BLEEDING

Close the radiator drain screw (1).

Relocate and tighten drain screw (7) to 2.5 m.daN (equipped with a new seal).

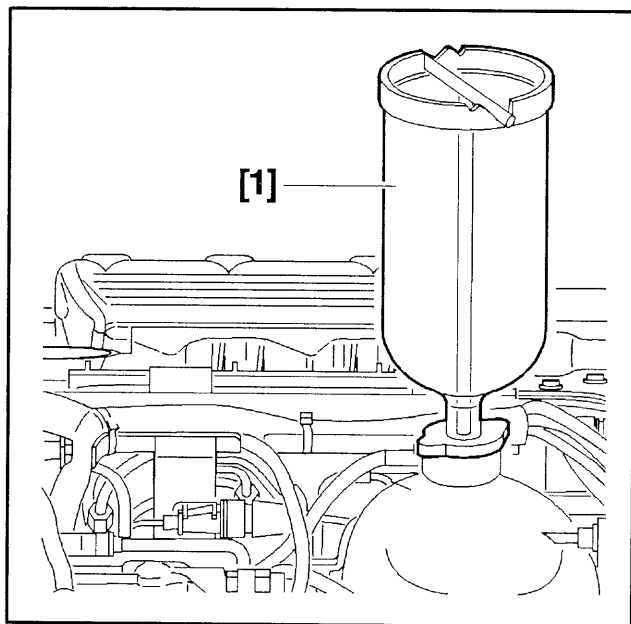


Fig : B1GP01KC

Fit the filling cylinder [1] to the filler orifice.

Fill the cooling system.

NOTE : Keep the filling cylinder full.

Close each bleed screw as soon as the fluid flows without air bubble.

Start the engine ; accelerate the engine speed to 1500 rpm.

Maintain this speed for three cooling cycles (fans starting and stopping).

Switch off the engine and wait for it to cool down.

Remove the filling cylinder [1].

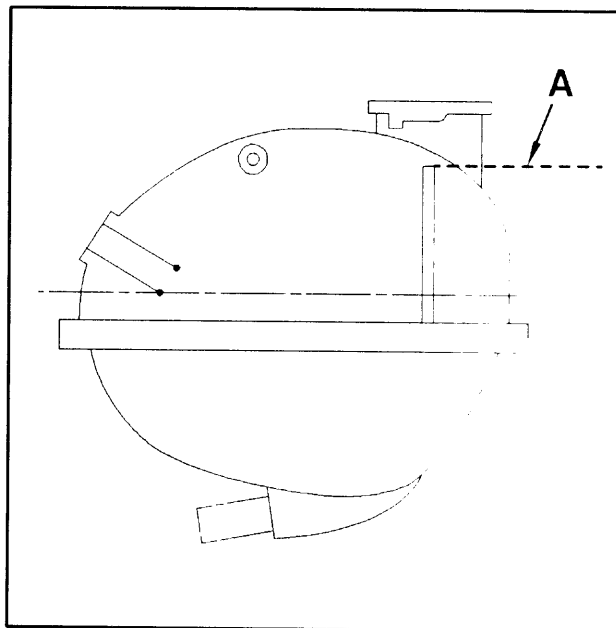


Fig : B1GP01LC

Top up the system to the max. mark A when cold.

REMOVING – REFITTING : THE WATER PUMP DRIVE BELT AND THE WATER PUMP

1 – RECOMMENDED TOOLS

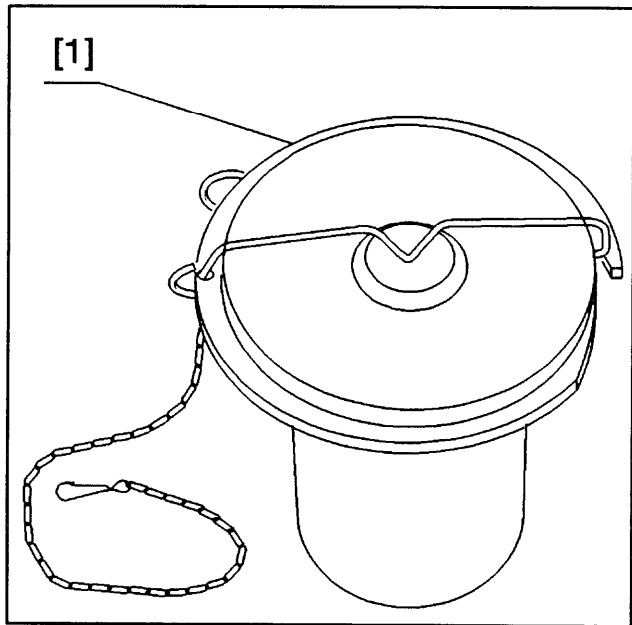


Fig B4BP00CC

[1] LHM reservoir/filter assembly cover 9004-T.

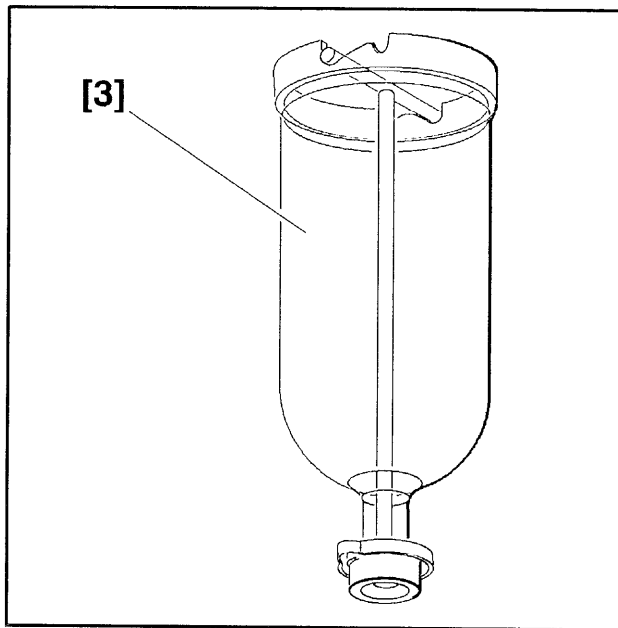


Fig : E5-P032C

[3] filling cylinder 4520-T.

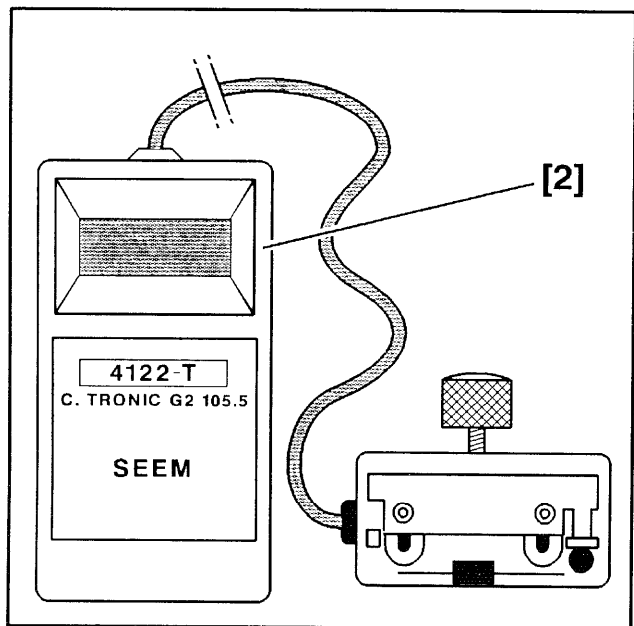


Fig : E5-P031C

[2] belt tension measuring equipment, with digital read-out.

4099-T : SEEM C.TRONIC 105.

4122-T : SEEM C.TRONIC 105.5.

2 - REMOVAL

Drain the cooling system (see the relevant operation).

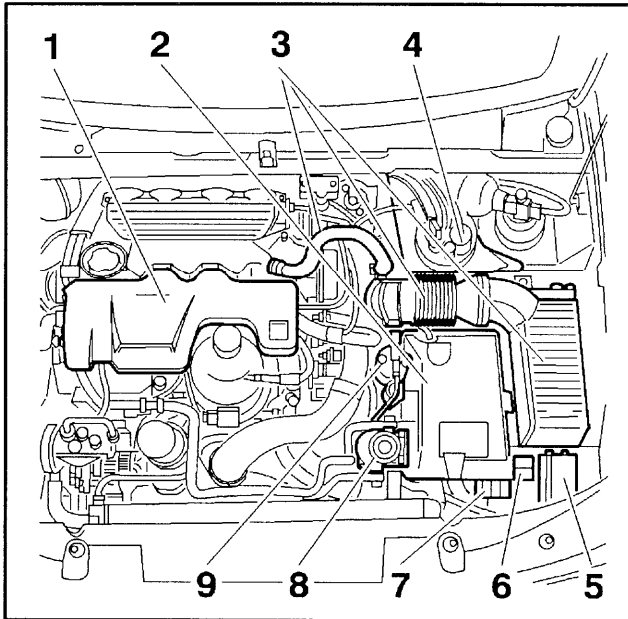


Fig : B1GP012C

Unclip the battery trim cover (2) :

- 2 attachment points, front side end
- 1 attachment point marked by an arrow towards the air filter (using a screwdriver)

Remove :

- trim cover (1)
- the battery
- air filter (3) (provided with the sleeve and breather connection hose)

Remove the LHM fluid reservoir (4). Locate the LHM reservoir/filter assembly cover [1].

Take out the fixing screws then push aside :

- fuse holder housing (5)
- pre-heater control unit (7)
- diesel fuel priming pump (8)
- dehydrator reservoir (9)
- the battery tray

Unclip :

- the electrical harnesses from the battery tray
- fuse carrier boxes (6) from the cooling fans unit

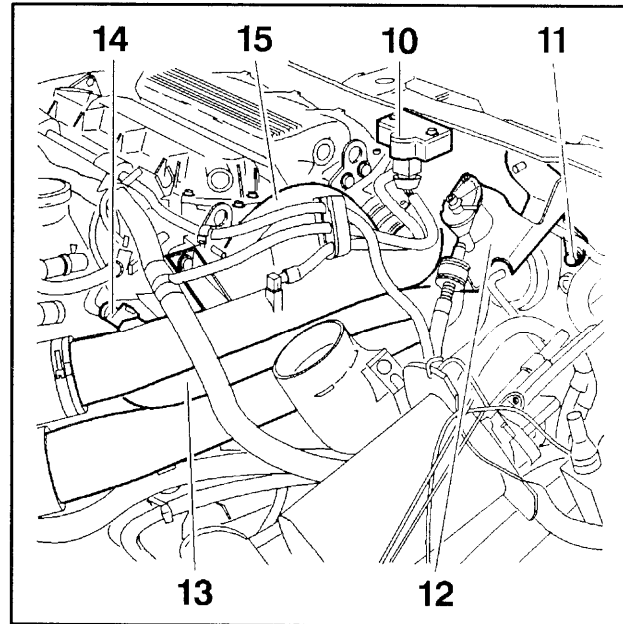


Fig : B1GP013C

Remove :

- air pressure sensor (10)
- screw (11)

Tilt the accelerator support (12).

Disconnect :

- coolant outlet housing flexible hose (13)
- air temperature sensor (14)

Unclip all the flexible hoses and electrical harnesses from turbocharger rigid suction pipe (15).

COOLING

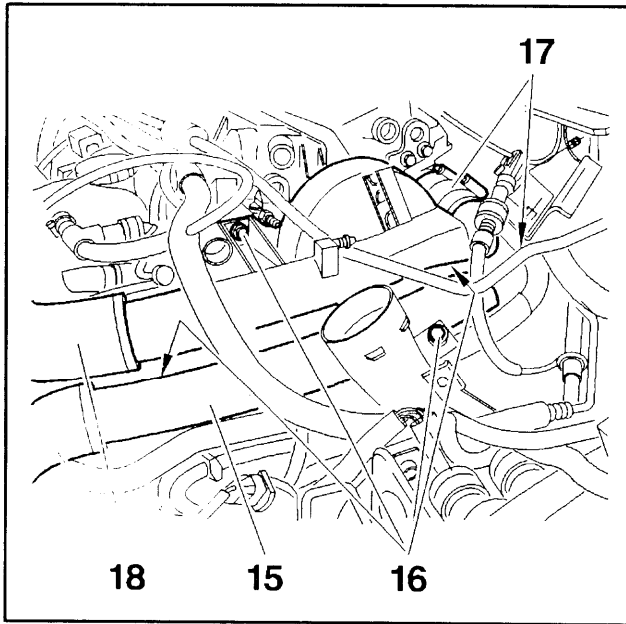


Fig : B1GP014C

Take off the 4 screws (16).

Disconnect sleeves (17) and (18).

Take out rigid suction pipe (15) from the turbocharger.

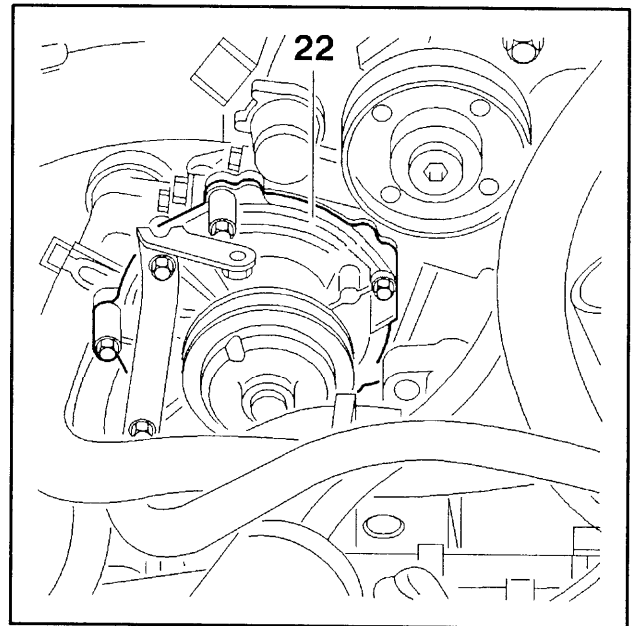


Fig : B1GP015C

Remove water pump (22).

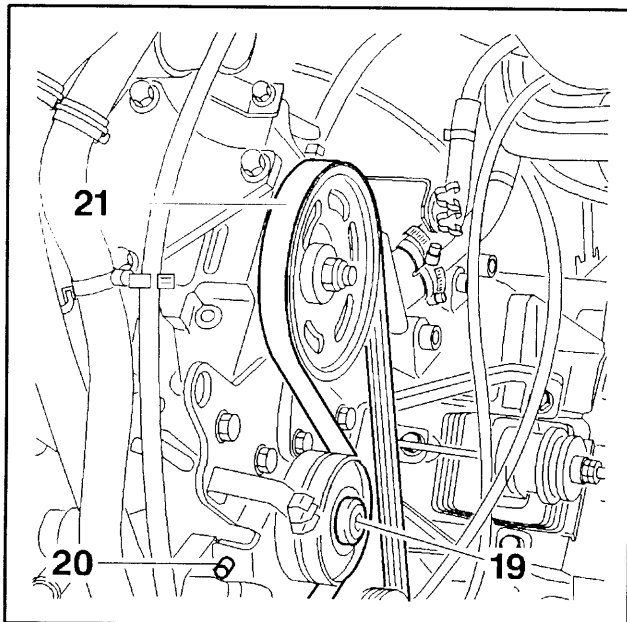


Fig : B1GP017C

Slacken screw (19).

Turn screw (20) in the tightening direction to release the belt.

Remove water pump belt (21).

3 – REFITTING

Clean the joint faces (do not use a sharp or abrasive tool).

Coat the gasket contact surface with a thin layer of sealing compound.

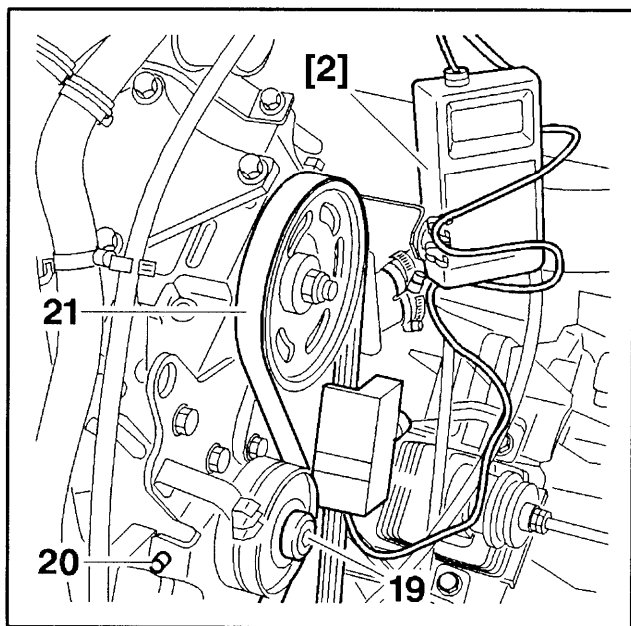


Fig : B1GP016C

Fit :

- the water pump (22) ; tighten to 1 m.daN
- water pump drive belt (21)

Install measuring equipment [2] on the belt.

Slacken screw (20) to tension the belt.

- new belt = 46 SEEM units.
- used belt = 38 SEEM units.

Remove measuring instrument [2].

Turn the crankshaft 3 turns in the normal direction of rotation.

Install measuring instrument [2].

Check belt (21) tension value.

- new belt = 46 SEEM units.
- used belt = 38 SEEM units.

Retighten screw (19).

Remove measuring instrument [2].

Refit turbocharger rigid suction pipe (15).

Reconnect sleeves (17) and (18).

Screw the 4 screws (16) in place.

Clip all the flexible hoses and electrical harnesses back to the turbocharger rigid suction pipe.

Reconnect :

- coolant outlet housing flexible hose (13)
- air temperature sensor (14)

Clip in place :

- fuse carrier boxes (6) from the cooling fans unit
- the wiring harnesses to the battery tray

Fit :

- the battery tray
- the dehydrator reservoir
- diesel fuel priming pump (8)
- pre-heater control unit (7)
- the fuse holder housing (5)
- the LHM fluid reservoir
- air filter (3) (provided with the sleeve and breather connection hose)
- the battery

Clip in place the battery trim cover (2)

Fill and bleed the cooling system (see the relevant operation).

Relocate trim cover (1).