

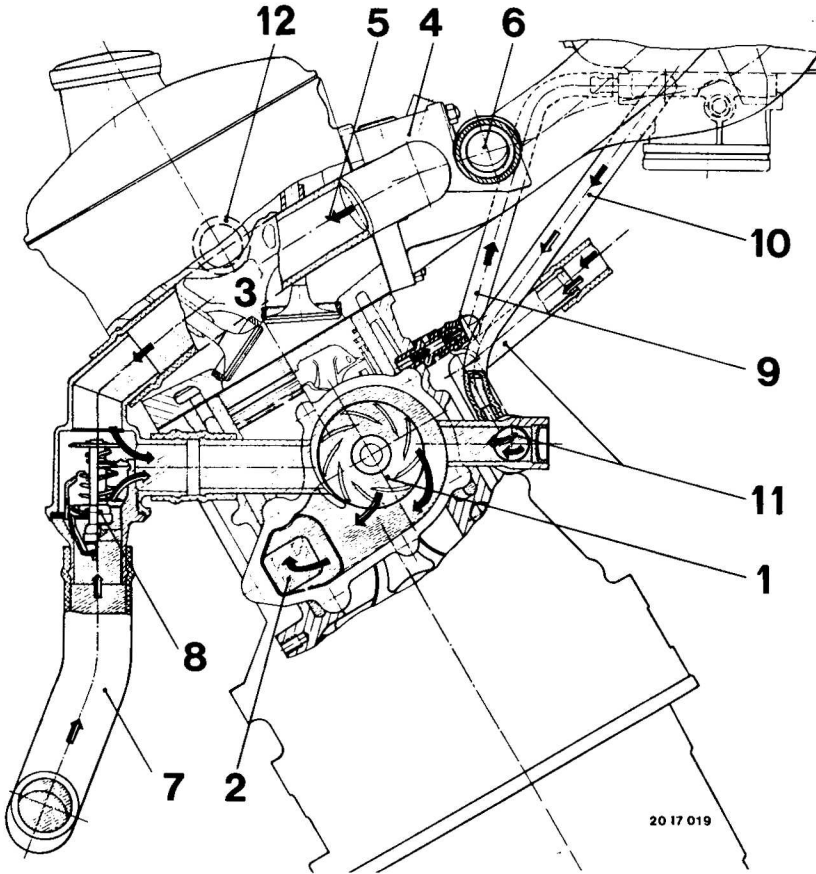
17 Radiator

	Coolant circuit – BMW 318 i	17 - 1
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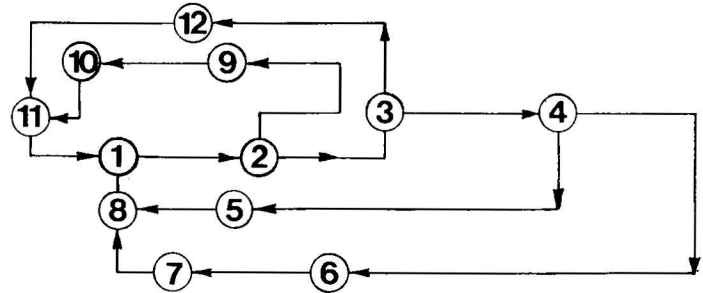
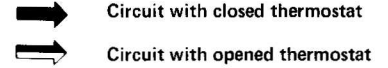
COOLANT CIRCUIT -- BMW 318 i

- 1 Water pump
- 2 Crankcase
- 3 Cylinder head
- 4 Branch flange
- 5 To thermostat
- 6 To radiator

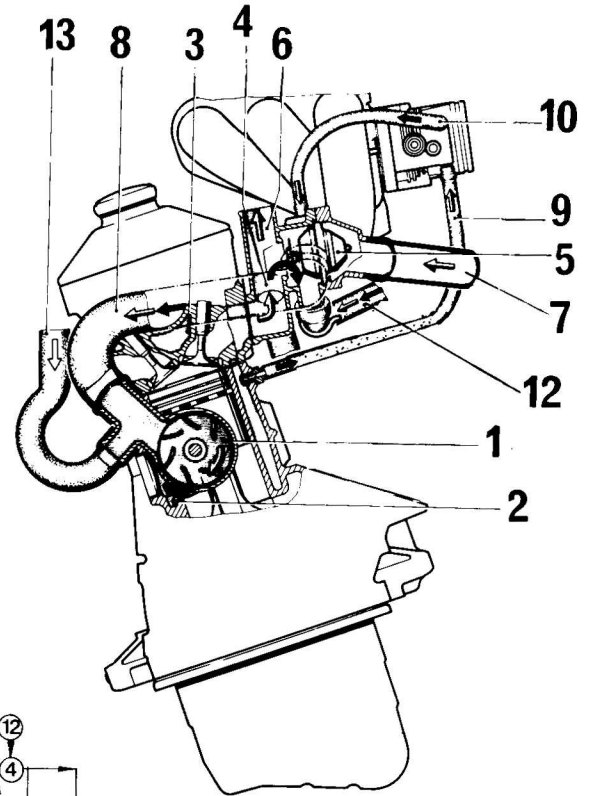
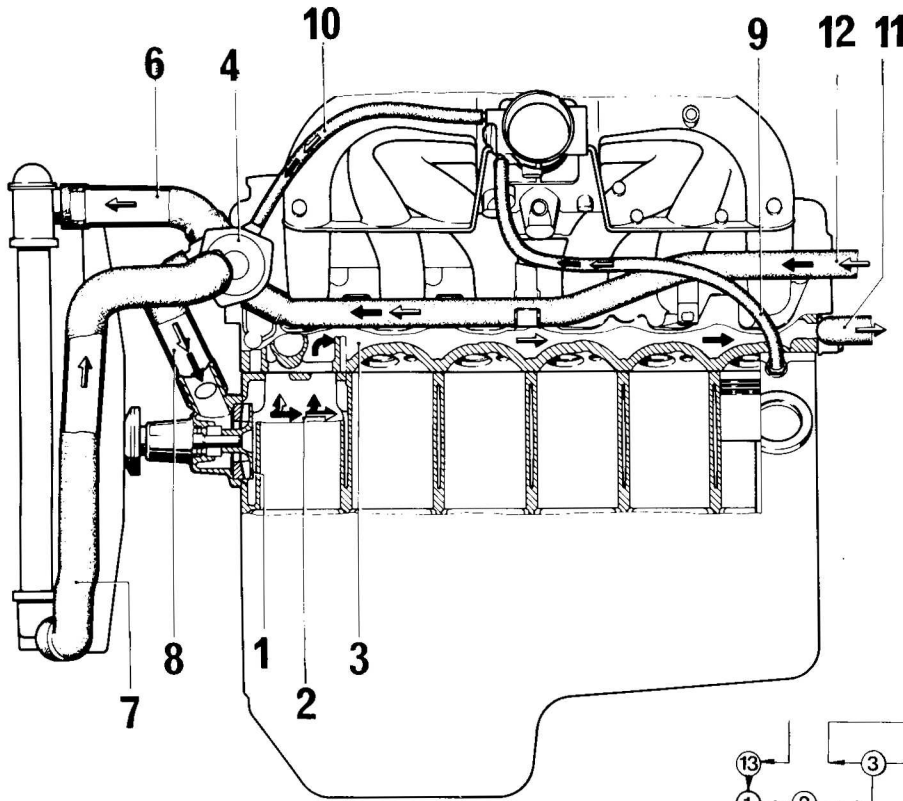
- 7 To radiator
- 8 Thermostat
- 9 To throttle preheating
- 10 Throttle preheating outlet
- 11 To water pump (heater return)
- 12 Heater feed





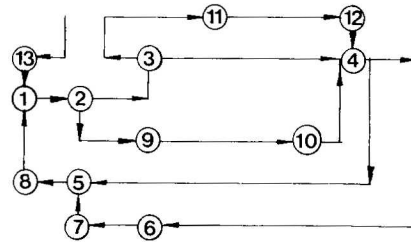
20 17 019



* See Specifications
 ** Source: HWB



 Circuit with closed thermostat
 Circuit with opened thermostat



30 17 108

3017 107

- 1 Water pump
- 2 Crankcase
- 3 Cylinder head
- 4 Thermostat housing
- 5 Thermostat closed
- 6 Radiator inlet (thermostat open)
- 7 Radiator outlet

- 8 To water pump
- 9 Throttle feed
- 10 Throttle return
- 11 To heat exchanger (car heater)
- 12 Heat exchanger return
- 13 To expansion tank

17 00 009 CHECKING COOLING SYSTEM FOR LEAKS

BMW 318 i:
Mount tester 17 0 002 on radiator with adapter 17 0 003 and produce 1 bar (14 psi) pressure. Cooling system does not have a leak, if there is no considerable pressure drop (max. 0.1 bar or 1.4 psi) after about 2 minutes.

BMW 325 e:
Mount tester 17 0 002 on expansion tank with adapter 17 0 003 and produce 1 bar (14 psi) pressure. Cooling system does not have a leak, if there is no considerable pressure drop (max. 0.1 bar or 1.4 psi) after about 2 minutes.

Assemble radiator cap (1), connector 17 0 004, adapter 17 0 003 and tester 17 0 002, and check the opening pressure* of the safety valve.

Lift vacuum valve slightly and check for correct fit. Check gasket, replacing cap if necessary.

* See Specifications

BMW M 3:
Screw adapter 17 0 009 on the expansion tank for connection of tester 17 0 002.

17 00 010 CHECKING FOR LEAKS BETWEEN COOLING SYSTEM AND COMBUSTION CHAMBER

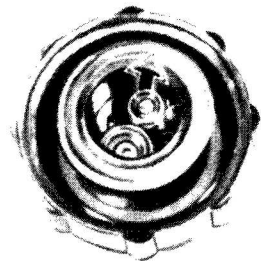
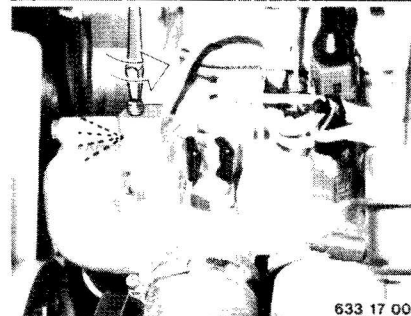
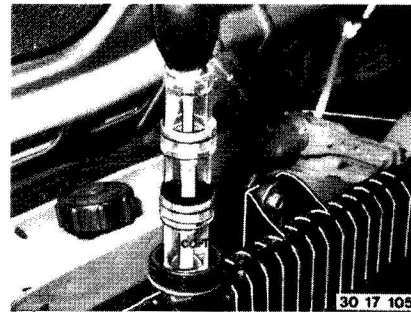
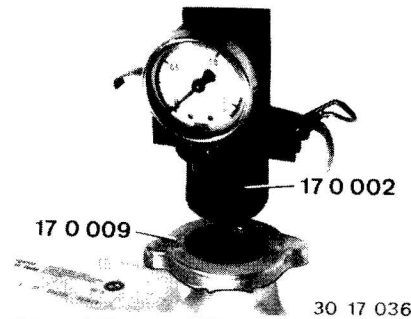
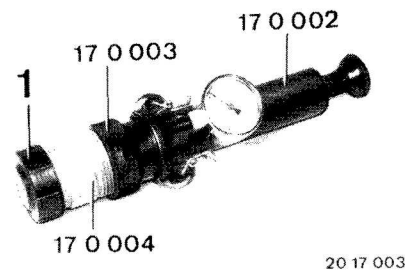
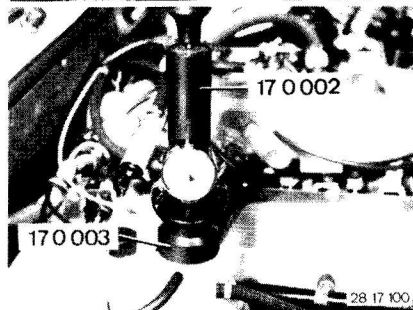
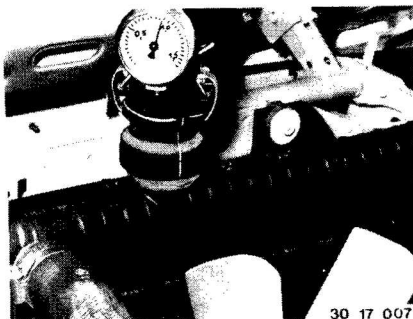
Fill "tester for cylinder head gaskets"*** and carry out test. Refer to instructions supplied with the tester.

17 00 039 BLEEDING COOLING SYSTEM

BMW 325 e:
Requirements:
Engine at operating temperature. Heater controls set to "warm". Engine running at fast Idle speed. Unscrew bleeder screw and tighten again when escaping coolant is without air bubbles. Keep adding coolant to expansion tank while bleeding. Use specified coolant*.

Caution!
Danger of injury on turning fan.

* See Service Information of Gr. 00
** Source of Supply: HWB



30 17 032

17 11 000 REMOVING AND INSTALLING RADIATOR

BMW 318 i: M 3:

Caution!

Danger of scalding when engine is hot!

Unscrew radiator cap.

Disconnect coolant hoses and drain coolant.

Installation:

Add coolant**.

Version with Radiator Drain Plug:

Unscrew drain bolt (1) to drain coolant.

Disconnect coolant hoses.

Installation:

Tightening torque* for drain bolt.

Use new hose clamps.

Add coolant**.

Loosen clamps and suspend fan cowl over fan.

Installation:

Make sure fan cowl retainers are positioned correctly.

Cars with Air Conditioner:

Pull off plugs on temperature switches.

* See Specifications

** See Service Information of Gr. 00

Cars with Automatic Transmission:
Unscrew oil cooler lines and plug open connections with caps.

Installation:

Tightening torque*.

Check ATF level, correcting if necessary

24 00 009.

Unscrew bolt and lift out radiator.

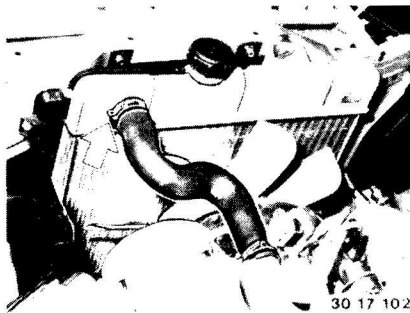
Installation:

Install washers and sleeves as shown.

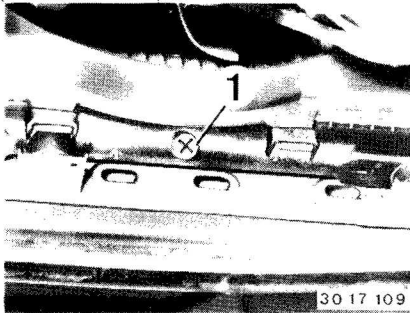
Tightening torque*.

Installation:

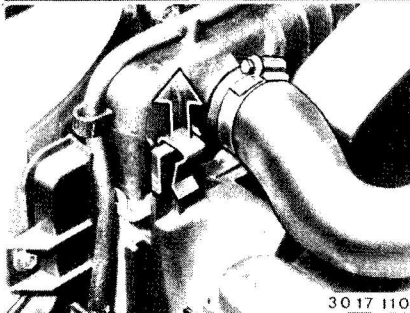
Check installed position of rubber mounts.



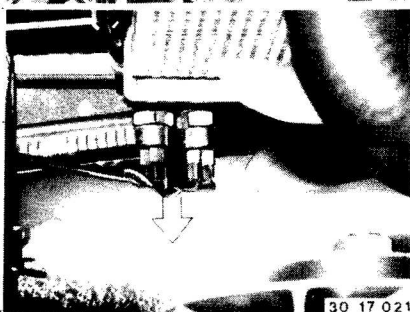
30 17 102



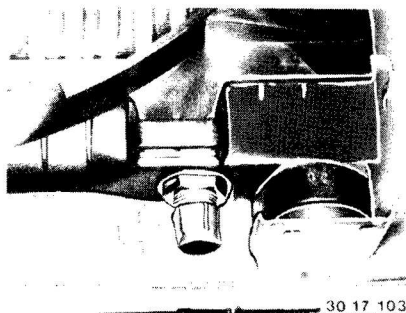
30 17 109



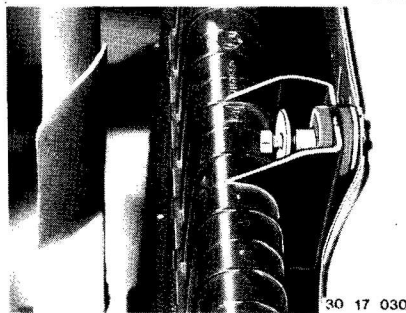
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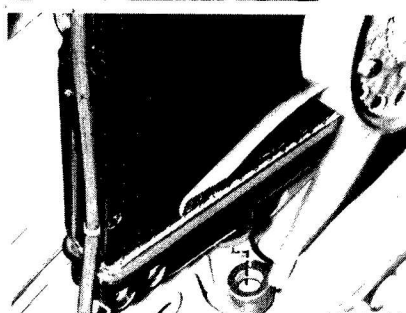
30 17 021



30 17 103



30 17 030

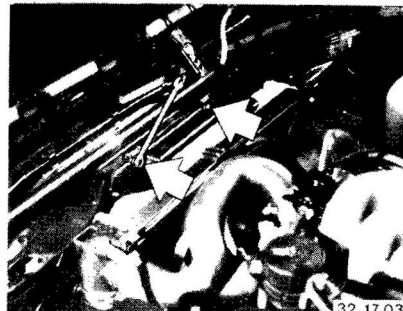


30 17 031

* See Specifications

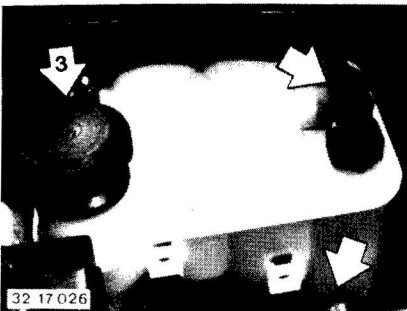
17 11 000 REMOVING AND INSTALLING RADIATOR

6 Cyl. M 20 / 1988 Models:
 Unscrew cap (3) on expansion tank.
Caution:
 Danger of scalding when engine is hot!



Unscrew upper radiator mounting bolts and lift out radiator.

Installation:
 Place radiator on rubber mounts precisely. Mount coolant hoses**. Fill cooling system with specified coolant* and bleed — see 17 00 039.

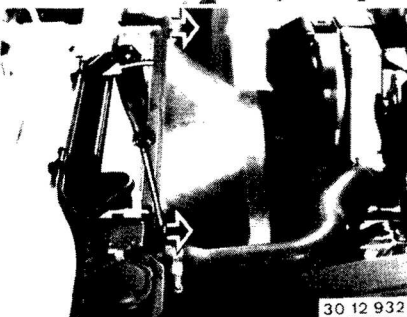


Loosen drain plug.
 Drain coolant, catching if applicable.
 Coolant*.
 Drain plug tightening torque**.
Caution!
 Danger of burns on hot engine.



32 17 007

Press out fan cowl plugs toward rear for M 20 cars.
 Remove splash guard if applicable — see 51 47 . . .



30 12 932

Disconnect coolant hoses.
 Disconnect vent hose.
Installation:
 Mount coolant hoses**.



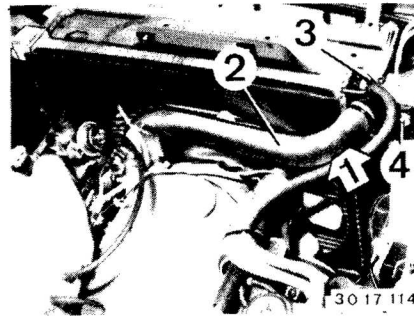
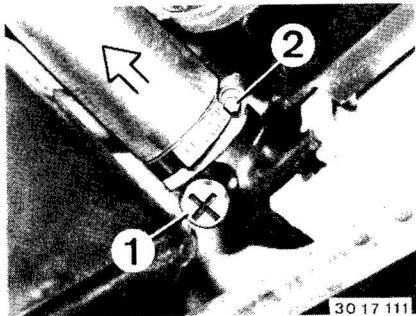
32 17 031

* See Service Information of Gr. 00
 ** See Specifications

* See Service Information of Gr. 00
 ** See Specifications

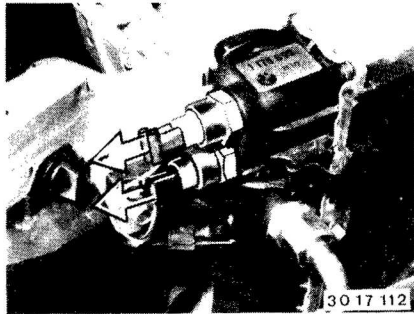
17-5

BMW 325 e: 325 i
Unscrew cap on expansion tank.
Unscrew drain plug (1) and drain coolant.
Loosen hose clamp (2) and pull off hose.
Caution!
Danger of scalding when engine is hot!
Installation:
Tightening torque* for drain plug.
Use new hose clamps.
Add coolant**.
Bleed cooling system 17 00 039.

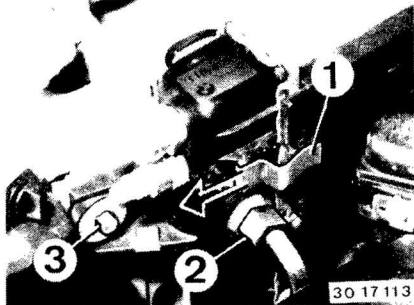


Lift out clamp (1).
Loosen hose clamps and pull off hoses (2 and 3).
Unscrew bolt (4).
Suspend fan cowl above fan and lift out the radiator from above.
Installation:
Use new hose clamps.
Tightening torque*.

Cars with Air Conditioner:
Pull off plugs on temperature switches.



Loosen clamp (1) on fan cowl.
Unscrew bolt (2).
Cars with Automatic Transmission:
Unscrew both oil cooler lines (3) on radiator.
Installation:
Tightening torque*.



* See Specifications
** See Service Information of Gr. 00

* See Specifications

17 11 100 REMOVING AND INSTALLING COOLANT EXPANSION TANK

Unscrew cap on expansion tank.
Loosen hose clamp (1).
Pull off hose and let coolant run out of tank.

Caution!
Danger of scalding when engine is hot!

Installation:
Add coolant*.
Bleed cooling system – see 17 00 039.

Loosen hose clamp (1).
Pull off hoses (2 and 3).
Unscrew and remove full level sender (4).

Unscrew bolts (1).
Lift out expansion tank.

17 11 100 REMOVING AND INSTALLING COOLANT EXPANSION TANK – 1988 Models –

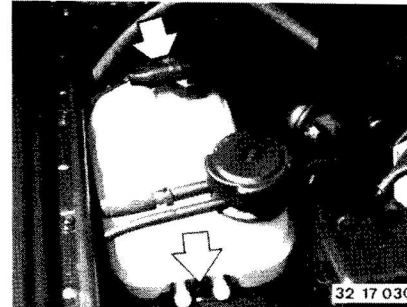
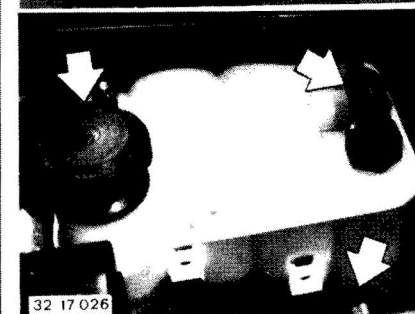
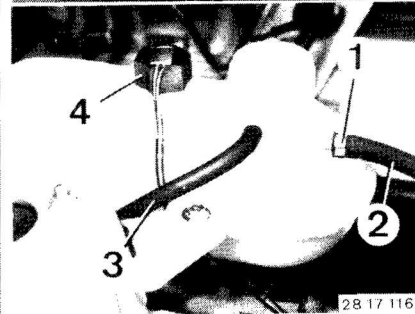
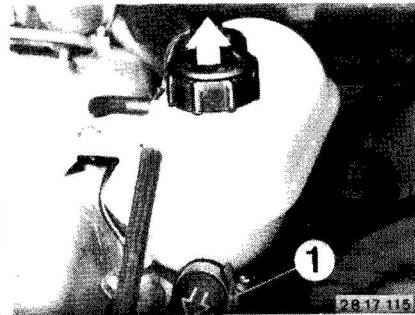
Unscrew cap.

Caution!
Danger of scalding when engine is hot!

Disconnect hose.

Installation:
Replace hose clamps, if necessary.
Tightening torque***.

* See Service Information of Gr. 00
*** See Specifications



Pull rear end of expansion tank out of clips and disengage front end.

Installation:
First slide front end of expansion tank into holder.

Mark on tank shows coolant level at approx. 20° C (68° F) (label).

Installation:
Fill cooling system with specified coolant** and bleed – see 17 00 039.

** See Service Information of Gr. 00

17 11 509 FLUSHING RADIATOR

If oil has penetrated into the coolant circuit, the radiator and expansion tank will have to be flushed and cleaned with approved Solvethane*.

Procedures:

1. Remove radiator and expansion tank.
2. Pour in 2 to 3 liters (4 to 6 pints) of Solvethane.
3. Shake radiator and tank thoroughly and drain after oil has been dissolved (2 to 3 minutes).
4. Install cleaned radiator and expansion tank, and connect on coolant circuit.
5. Fill entire cooling system with hot water and flush thoroughly by replacing hot water several times to guarantee removal of solvethane residue.
6. Check drained coolant for traces of oil and repeat test step 5 (if necessary). Fill and bleed cooling system as normally after finishing the cleaning procedures.

Caution!

Solvethane attacks rubber seals, hoses, etc. and consequently must not be permitted to enter or remain in the cooling system.

Always conform with safety measures for the handling of Solvethane (printed on cans).

Also refer to Service Information 11 03 80 (660).

17 40 000 REMOVING AND INSTALLING
EXTRA FAN ASSEMBLY

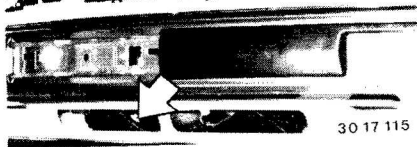
Remove and install radiator 17 11 000.
Remove and install all radiator grill sections
51 13 070.

Unscrew nuts on extra fan.



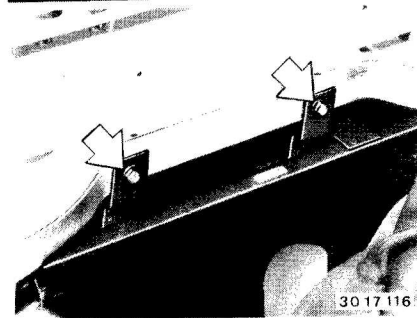
30 17 115

Unscrew condenser.



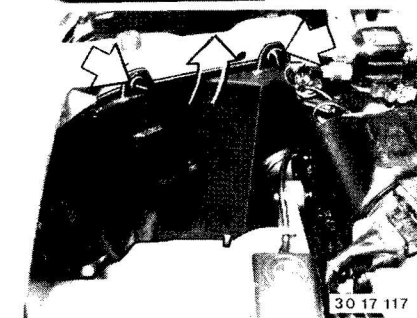
30 17 116

Lift out trim panel.



30 17 117

Disconnect wire plug.
Tie back condenser and lift out extra fan from
above.



30 17 118