All models

On separate order
Total capacity of cooling system and ratio of antifreeze to water in liters

> ⚠ **WARNING!**
> Open expansion tank/radiator cap **only** at coolant temperatures **below 90°C.**

Coolant composition

50% by volume of water
50% by volume of corrosion protection/antifreeze agent.

Model	Engine	Total capacity of cooling system incl. heater	Antifreeze protection to -37°C (50 Vol. -%)	Antifreeze protection to -45°C (55 Vol. -%)
124	103, 104, 602.96	9.5	4.75	5.25
	119	15.5	7.75	8.5
	603.96	10	5	5.5
129	104	11.5	5.75	6.3
	119	15	7.5	8.25
	120	15.5	7.75	8.5
140	104	14.5	7.25	8
	119	16.5	8.25	9
	120	18.5	7.75	10.25
	603.96	10	5.0	5.5
202	104	10	5.0	5.5
	111	9	4.5	5.0

Torque specifications (Nm)	
Radiator drain plug	1.5
Engine block drain plug	30

Corrosion protection/antifreeze

Corrosion protection/antifreeze must provide the following:

- Adequate corrosion and cavitation protection for all components
- Antifreeze protection
- Higher boiling point.

Approx. 50% by volume of antifreeze must be added to the water. This concentration provides antifreeze protection down to approx. -37°C.

A higher concentration is only practical with even lower ambient temperatures.

Exceeding 55% by volume of corrosion protection/antifreeze agent reduces the antifreeze protection as well as the heat dissipating ability of the coolant.

55% by volume of corrosion protection/antifreeze agent proves antifreeze protection down to approx. -45°C.

Corrosion protection/antifreeze increases the boiling point, i.e. the coolant does not vaporize as rapidly. At high coolant temperatures, coolant boil over is avoided.

Use only approved corrosion protection/antifreeze.

Checking coolant in service

Before the start of the cold season, check the coolant for antifreeze protection.

In countries with high ambient temperatures, check corrosion protection/antifreeze concentration in coolant once a year.

When refilling (after coolant loss), ensure that the coolant contains 50% by volume of corrosion protection/antifreeze (protection down to -37°C).

The corrosion protection in the coolant diminishes during operation. The coolant then has a corrosive effect.

Thee coolant should be used for a maximum of **3 years.**

Before adding in new coolant, flush the old coolant from the cooling system.

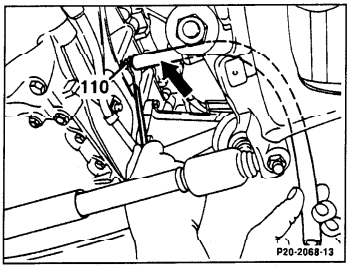
For draining and filling of coolant, see repair instruction 20-010.

Disposal of coolant

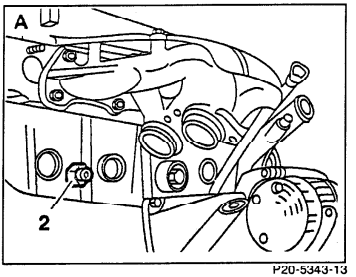
Old coolant must be disposed of according to local laws and waste water or environmental regulations.

Engine block coolant drain locations

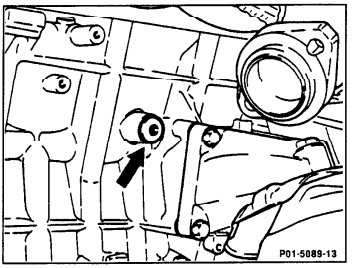
Engine 119	Right plug is forward of RH engine mount; left plug is forward of LH engine mount.



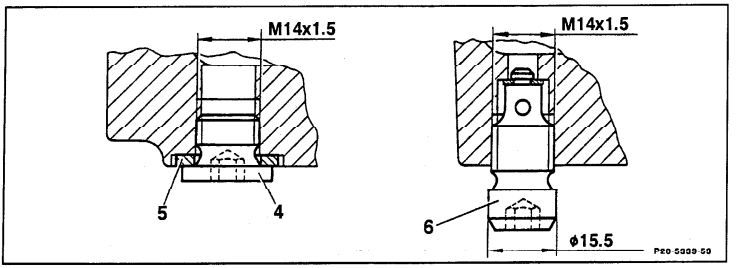
Engine block coolant drain (110) with drain hose attached, engine 104



Engine block coolant drain, engine 111



Engine block coolant drain, engine 120



NOTE:
On engine 119, do not install later version drain bolt (6) with hose nipple and captured washer in engine blocks with earlier version drain bolt (4).