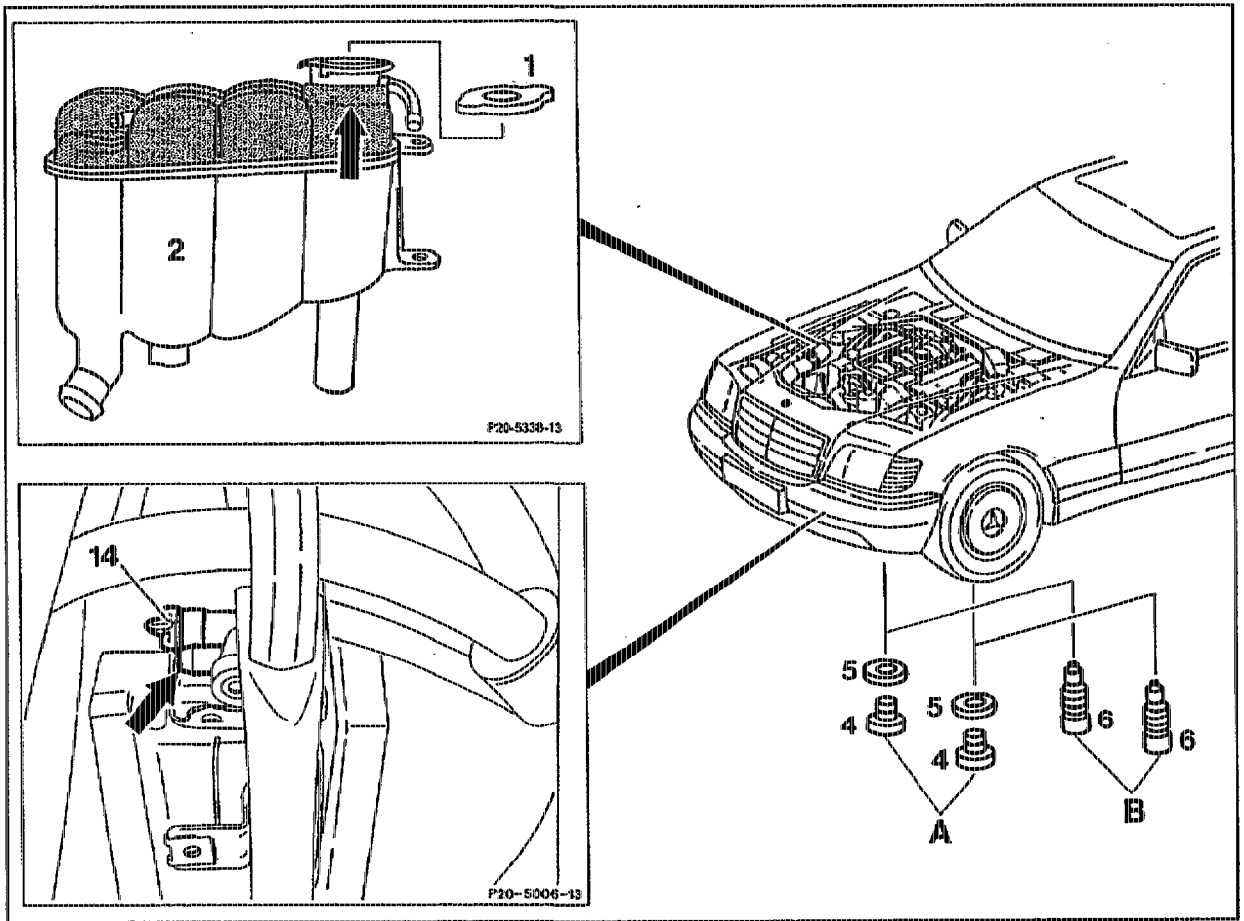


20-0100 Draining, pouring in coolant – Anti-freeze protection table

Preceding work:
Bottom engine compartment panel removed
(Maintenance Manual 6190).

Operation no. of operation texts and work units or standard texts
and flat rates
20-1142-1151



P20-5336-57

Model 140

- A. Drain plug, 1st version
- B. Drain plug, 2nd version

Filler cap (1) turn anticlockwise as far as 1st detent, turn 2-stage cap in model 210 half a turn to release pressure.



Cap (1) must not be opened unless coolant temperature is below 90 °C.

Risk of scalding!

Cap (1) turn on to 2nd detent, 2-stage cap in model 210 and remove.

Draining coolant at radiator

Hose (12 mm inner dia.)	fit onto the connection (arrow).
Drain plug (14)	open, close.
Coolant	drain into a suitable vessel (about 6 liters).

Draining coolant at crankcase

1st version: drain plugs (4) with seals (5) next to left and right engine carriers	unscrew, screw on (30 Nm).
Coolant	drain into a suitable vessel (metal tray).

2nd version: drain plug (6) (banjo bolt)

next to left and right engine carriers	slacken, tighten (10 Nm); see Note.
Hose (15 mm inner dia.)	fit onto drain plug (6).
Drain plug (6)	open and drain coolant into a suitable vessel.

Pouring in coolant, bleeding auxiliary heater

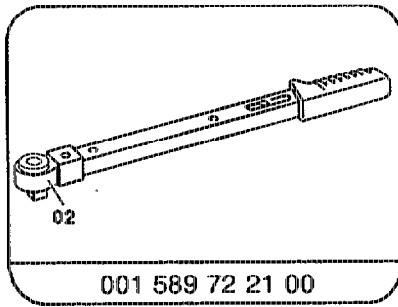
Model 124: coolant	pour in up to the marking on expansion reservoir (2).
Models 129, 140: coolant	pour in up to separation level between top part of expansion reservoir (black) and bottom part of reservoir (transparent).

Note re model 129

If expansion reservoir (2) does not have additional ventilation line (see 20-4500), detach ventilation line at expansion reservoir (2), pour in coolant, fit on ventilation line and add coolant up to the brim (arrow).

Model 210: coolant	pour in up to marking (cast lug, visible when cap open) on bottom of expansion reservoir.
Heater	switch on.
Engine	warm up by running at moderate speed until coolant thermostat opens.
Vehicles with auxiliary heater: auxiliary heater	bleed (83-1165).
Coolant in expansion reservoir	top up.
Filler neck at expansion reservoir (2)	seal from a coolant temperature of approx. 60 - 70 °C.
Coolant	check resistance to low temperatures.
Cooling system	check for leaks (20-0170).

Special tool



Tightening torques in Nm

Radiator drain plug (reference value)		1.5
Crankcase drain plug	1st version (A)	30
	2nd version (B)	10 ¹⁾

¹⁾ Drain plug (2nd version) with fitting taper for drain hose, standard as of January 1993

Commercially available tool

Anticorrosion/antifreeze tester
FT 2030

e. g. Leitenberger
Bahnhofstraße 23
73138 Kirchentellinsfurt
see also Workshop Equipment Manual
Volume 1, Chapter D, Group 13/20

Capacities in liters

Model	Engine	Cooling system with heater	Anti-corrosion	Anti-freeze agent
			-37 °C (50% by vol.)	-45 °C (55% by vol.)
124	119.974/975	15.5	7.75	8.5
129	119.960	15	7.50	8.25
129 AMG 6,0	119.960	13	6.5	7.15
140	119.970/971	16.5	8.25	9.1
210	119.985	11	5.5	6.0

Note

Composition of coolant for antifreeze protection down to $-37\text{ }^{\circ}\text{C}$

50 % by vol. water (Mercedes-Benz Specification for Service Products).

55 % by vol. anticorrosion/antifreeze agent (Mercedes-Benz Specifications for Service Products).

A higher concentration is only of some purpose at lower ambient temperatures.

A concentration of 55 % by vol. anticorrosion/antifreeze agent offers antifreeze protection down to $-45\text{ }^{\circ}\text{C}$.

A concentration of more than 55 % by vol. anticorrosion/antifreeze agent reduces the antifreeze protection and impairs the heat dissipation.



Disposing of coolants

The anti-corrosion/anti-freeze agents approved in the Mercedes-Benz Specifications for Service Products are biodegradable substances.

Refer to the legal regulations or local wastewater regulations.

Refer to the Environmental Protection Catalog issued by MBVD/PWU for workshops in Germany.

Operational monitoring of coolant

Check the resistance of the coolant to low temperatures before the start of the cold season.

In countries with high ambient temperatures, check the anti-corrosion/anti-freeze agent concentration once a year.

The corrosion protection in the coolant is reduced during operation of the vehicle. Such coolants have a sharply corrosive effect.

The maximum permissible period of use of the specified coolant in car engines is **3 years**.

If topping up (after loss of coolant) it is essential to ensure an anti-corrosion/anti-freeze agent concentration in the coolant of 50 % by vol. (anti-freeze protection down to $-37\text{ }^{\circ}\text{C}$).



Before pouring in fresh coolant, the cooling and heating system must be free of used coolant and of corrosion residues. For this reason, clean cooling and heating system.

Anti-corrosion/anti-freeze agent

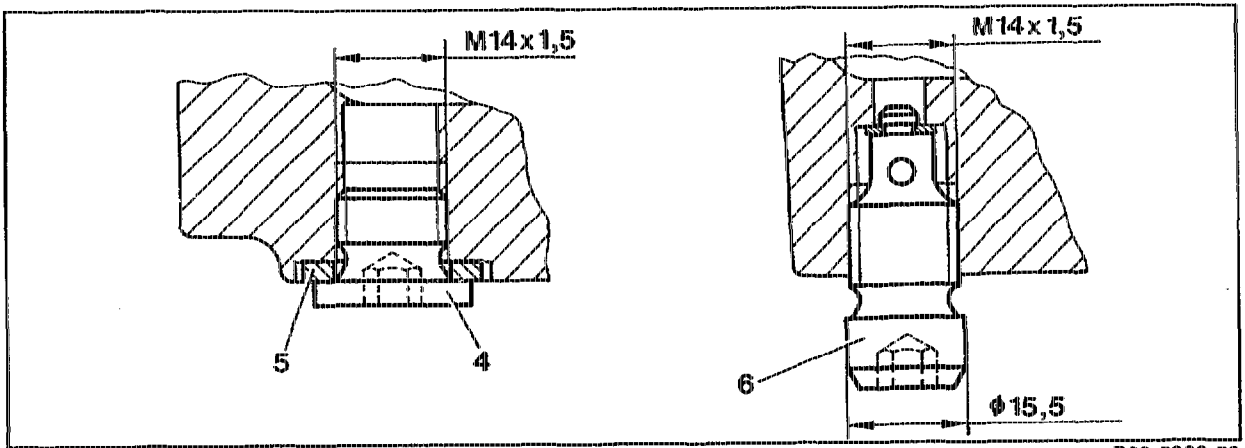
Anti-corrosion/anti-freeze agent performs the following tasks:

- provides adequate corrosion and cavitation protection for all components,
- provides anti-freeze protection,
- increases the boiling point.

Use only approved anti-corrosion/anti-freeze agents (see Mercedes-Benz Specifications for Service Products).

Water

Use water which is clean and not too hard. Drinking water frequently, but not always, fulfills requirements. The contents of dissolved substances in the water may be of importance for the occurrence of corrosion. If the water quality is not known, distilled or fully demineralised water should be used. See Mercedes-Benz Specifications for Service Products for water quality.



P20-5339-53



Drain plug (6) (2nd version) with fitting taper for drain hose and captive seal must not be used on the crankcase with drain plug (4) (1st version).