

### A. De-oiling

- 1 Completely drain cooling system.
- 2 Remove thermostat element (20–110) and set heater lever to warm.
- 3 Fill cooling system with a 5 % solution of water and P 3-Standard (made by Henkel) (50 g P 3/1 liter water).

#### **Attention!**

On vehicles with **aluminium radiator**, a neutral cleaner or a mildly alkaline cleaner such as P 3-Croni (made by Henkel) or Grisiron 7220 (made by Farbwerke Höchst) must be used instead of the heavily alkaline cleaner P 3-Standard.

- 4 Run engine warm at medium speed up to approx. 80 °C (176 °F) and hold at this temperature for about 5 minutes.
- 5 Stop engine and permit cooling system to cool down to approx. 50 °C (122 °F).
- 6 Completely drain solution.
- 7 Immediately thereafter, flush cooling system with fresh water at engine idle, until all cleaning solution residue is removed from cooling system.

### B. Decalcification, derusting

#### **Attention!**

Prior to decalcification, **be sure** to de-oil cooling system, even if there is no visible oiling up.

- 1 After second flushing job during de-oiling, fill cooling system with a 10 % (100 g/l) solution of water and citric acid, tartaric acid or oxalic acid (sold by the chemical trade) while giving preference to citric acid.

2 Run engine warm at medium speed up to approx. 80 °C (176 °F) and hold for approx. 10 minutes at this temperature.

3 Stop engine and permit to cool down to approx. 50 °C (122 °F).

4 Completely drain decalcification solution.

5 Flush cooling system at least 3 times with fresh water while running engine for at least 5 minutes with each flushing charge.

Badly calcified cooling systems may require a repetition of the treatment. Always prepare a fresh decalcification solution and repeat flushing steps.

6 Install thermostat element with new sealing ring.

7 Fill cooling system with coolant (20–010).

**Note:** For decalcification and derusting, commercial products made with the acids named above may also be used.

Chromic acid or products containing chromates are prohibited by sewage regulations.