



## **Alfa Romeo Spider** **Model year from 03.1998 to 12.2000** **All engines with Bosch Motronik** **M 1.5.5**

### **Poor idling during the warming-up phase**

If there are complaints about the above-mentioned fault, the cause could be a defective lambda-probe signal.

In the case of vehicles which have covered 80,000 km or more, idling fluctuations or even stalling of the engine could occur during the warming-up phase. The lambda-probe signal present is superimposed on by interference.

This interference arises due to the clocking of the lambda-probe heating.

In this case, proceed as follows:

- Connect a two-channel oscilloscope to the signal cable and to the heating cable of the lambda probe.
- Start the cold engine and let it warm up.
- Carry out measurement between an engine temperature of 20 °C – 40 °C.
- A clocked signal is visible on the heating cable.
- If this clocked signal is transmitted to the signal cable of the probe, it is interpreted by the engine control unit as a rich mixture. When control-readiness is reached (probe reaching operating temperature), the control unit then makes the fuel/air mixture correspondingly leaner.
- The software status can be modified so that control-readiness is released only at higher lambda-probe temperatures.