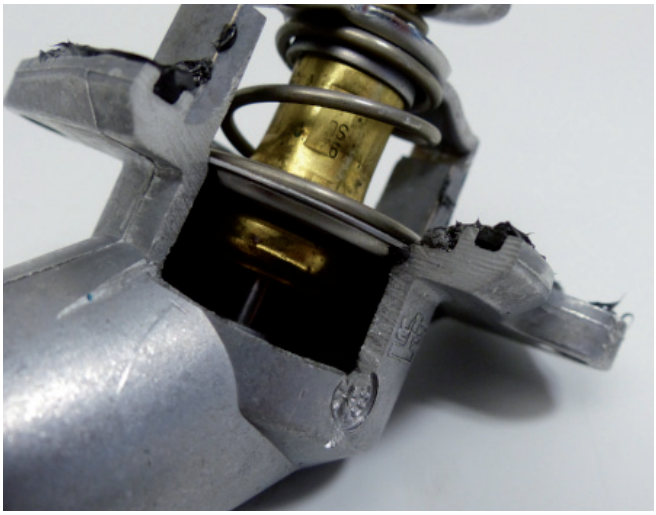
Issue No. 6/2013:
Not fully sealed? Installing coolant thermostats correctly

The coolant thermostat performs numerous important functions in a vehicle. As a result, it is advisable to replace the thermostat promptly in the event of a fault.

Time and again, thermostats are returned to MAHLE under complaint because they apparently leak or do not work correctly. Incorrect application could be one reason of this. However, the cause is frequently the use of sealant or instant gasket during installation, which can result in several problems.

PROBLEM 1: MATERIAL COMPOSITION
Thermostat gaskets consist of complex material compositions and often contain compounds that are not oil-resistant. If sealants containing mineral or synthetic oil particles are used, this leads to a swelling of the gasket—and thus to its decomposition.



The application of sealant has led to the thermostat no longer sealing properly.

PROBLEM 2: FILLING LEVEL
The gasket design has been calculated to exactly fill the gasket groove. If a sealant is applied during installation, a complete seal can no longer be guaranteed due to the additional volume.

PROBLEM 3: REDUCED COOLANT FLOW
Frequently sealant is applied so liberally that paste particles end up in the coolant circuit. This has serious consequences: the sealant particles can swell up and obstruct the coolant flow. They can deposit in the thermostat, so that it can no longer open or close properly, which may lead to system overheating.

On the basis of the risks depicted, MAHLE strongly recommends to not use sealants or instant gaskets and will reject any claims caused by their use.

JUST IN CASE:
MALFUNCTIONS WITH NEW THERMOSTATS
A temperature problem is frequently diagnosed after the replacement of a thermostat. However, before the thermostat is simply replaced again, the coolant circuit should be bled both carefully and repeatedly, air in the cooling system being the main cause for temperature problems.