Technical Messenger

Workshop Information

MAHLE

Issue No. 06/2018: Fluctuating coolant temperature

When fluctuations in the coolant temperature occur in vehicles with a direct-shift gearbox (DSG), the transmission oil thermostat fitted on the engine side can be one of the causes of the fault. This problem frequently occurs in overrun mode during longer downhill runs: in this case, the coolant temperature and engine oil temperature fall below the normal operating temperatures.

The thermostat regulates the oil temperature in the gearbox via the coolant circuit in the vehicle, and the transmission oil dissipates the heat generated from the DSG to the cooling water via a heat exchanger. If the thermostat malfunctions—being stuck in the open position, for example—the engine requires considerably more time to reach its normal operating temperature, or it may not even reach it at all.

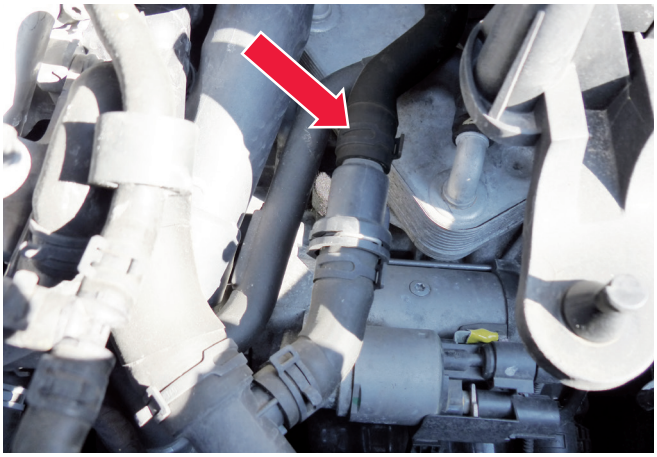

Figure 1: The thermostat is integrated in the hose to the heat exchanger (beneath the air filter housing).

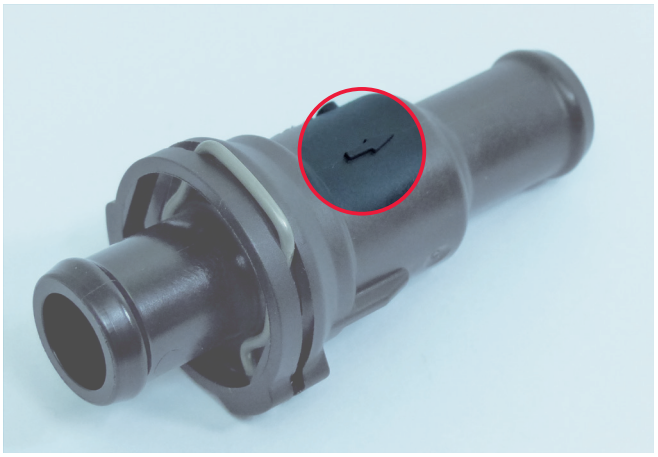

Figure 2: Important when replacing the thermostat: note the installation direction (arrow).

IMPORTANT! Modern cooling circuits are highly complex systems and must therefore be repaired with due care. Above all, proper bleeding is extremely important.

›› See also Issue no. 06/2016: Thermal problems after a thermostat change: air in the cooling circuit