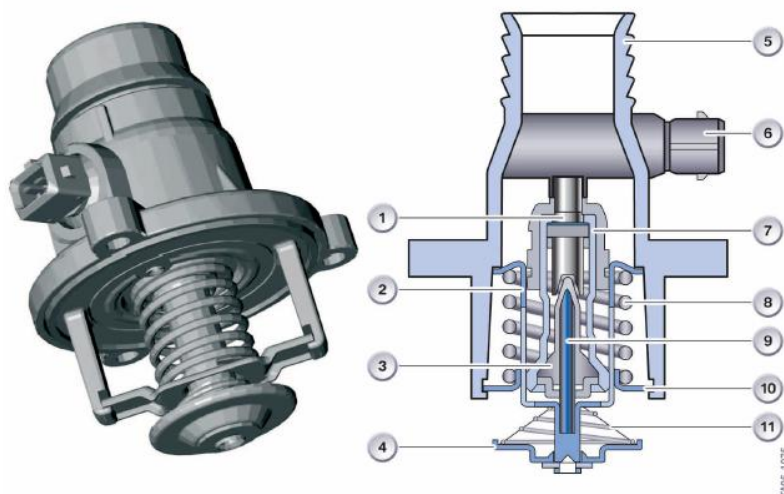


What happens to a car air conditioner if the thermostat is blocked?

Since 1922, thermostat has been used in auto engine cooling system and is one of the key control components for vehicles to achieve efficient thermal management. The cooling systems of modern fuel vehicles are mostly equipped with the map-controlled thermostats (also known as: electronic thermostats). The electronic thermostat has a wider range of coolant temperature adjustment than the traditional wax thermostat. It cooperates with the electronic water pump to intelligently adjust and accurately control the flow of coolant under different driving conditions and different engine workloads.



For the automobile cooling system, thermostat's adjustment function is very important, so that once the thermostat fails, it often affects the entire cooling system, as well as other important components such as the engine and gearbox (Or it'd even cause a serious damage in worst case).



As we know, when the thermostat is completely blocked, the vehicle will shortly have engine overheating alarm; when the thermostat is partially blocked, it will cause less coolant flowing through the radiator under specific conditions with insufficient heat dissipation, resulting in an overheated engine, under such a circumstance, speed of the cooling fan will be increased (so as to enhance heat dissipation), and temperature difference between the outlet hose of engine jacket (or radiator inlet hose) and the radiator outlet hose will be quite obvious.



You may have a question: the thermostat is not a part of the car air-conditioning system, when it is blocked, how does it affect the air-conditioning? In fact, according to the design logic of modern automobile cooling system, the thermostat failure will not cause direct damage to the air conditioning system, but it will obviously affect the operation and cooling performance of the air conditioning.



When thermostat is partially blocked due to either mechanical or electrical reasons, then the car air conditioner cannot effectively reduce the temperature of cabin (with a feeling that the air conditioner has not been cold all the time). The logic behind this situation is: partial blockage of the thermostat causes the engine overheated; when the coolant temperature exceeds a certain value, it will trigger the compressor of the air conditioning to stop (or trigger a linear reduction in the displacement of a variable displacement compressor), resulting in insufficient cooling capacity of the air conditioning. Usually, replacing a new thermostat and eliminating electrical faults can restore the cooling effect of the air conditioner.