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New Water Pump Technology

Historically the engine cooling circuit was relatively straightforward enabling us to have an understanding of the individual components within. As technology progressed, cooling systems would include mechanical thermostats and thermostats which are activated electronically with temperature switches.

All these innovative advancements are covered by the term „thermal management“. The water pump and its technical progress play a key part in this complex system.

The reason for this is that exhaust emission standards and emission limits are becoming more complex. As a result, vehicle manufacturers are constantly finding new ways to satisfy or exceed these exhaust emission standards while at the same time reducing consumption and increasing output.

In order to reduce such emissions in the more commonly known – warm up stage, vehicle manufacturers have a wide range of technology giving them many options for development.

One of the options as adapted by BMW is to use an electrical water pump - see Fig.1 (OPTIMAL article numbers AQ-2239 and AQ- 2241) which has a magnetic clutch.



Fig. 1

Technical-Tip: 11/14
Pictures: OPTIMAL Automotive GmbH



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The PSA Group and MINI (BMW Group) have built in systems (see Fig. 2) which drive the water pump via a mechanical / electronic detachable friction wheel.

Mercedes and VW favour a „vacuum“ -controlled system. This method prevents the delivery of water in certain operating modes. Applications for this method would include: VW, AUDI, SEAT, SKODA 1.2 TSI, TFSI engine classification code CBZA and CBZB (see Fig. 3 and 4)

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All systems except for electrical water pumps have a fallback level, i.e. the water pumps are always driven in order to ensure that the cooling agent is circulated in the event of an actuation malfunction. In the case of poor heating performance or increased consumption, these systems require the mechanic to rethink things and understand how the individual components work together. The OPTIMAL Automotive GmbH training programme helps you, your employees and moreover, your customers to be updated with latest developments in technology and at the same time have an insight of the workings of OPTIMAL water pumps.

OPTIMAL - Your profit:

Be next to take advantage of our training programme

Further information about OPTIMAL water pumps or training programmes can be found by sending an e-mail to: training@optimal-germany.com

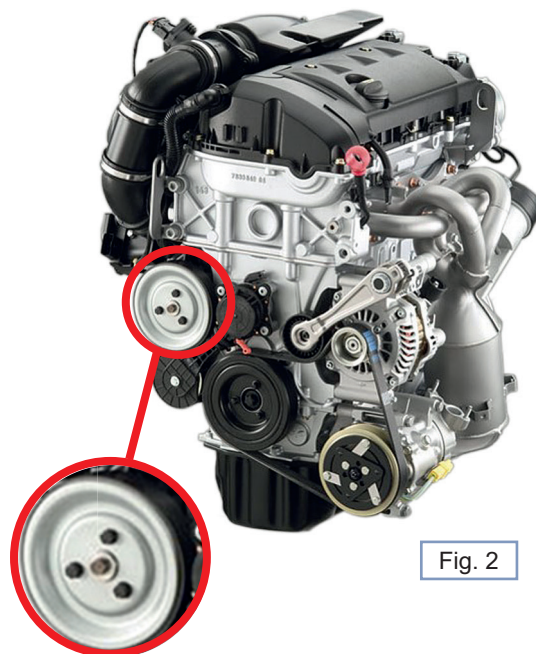


Fig. 2



Fig. 3



Fig. 4



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