



NRF TECHNICAL ARTICLE - NOVEMBER 2022

ALL ABOUT AUXILIARY WATER PUMPS

Since Q3/2020 NRF offers a range of AWP - Auxiliary water pumps for passenger cars and NEW also for trucks. We now have extended our AWP range and keep 33 SKU's on stock to serve your demands.

(AFTER-) COOLING

Many modern cars with downsized (charged) combustion engines require continuous cooling during a stop (#Start/Stop system), or after turning off the engine (3-10 minutes). The AWP secures after-cooling of the cylinder head and/or the liquid-cooled turbocharger (#Turbo). Newer car models also have liquid cooled AC-condensers and/or liquid cooled intercoolers, which require a coolant flow by



the AWP as well.

On EV and Hybrids it secures the constant temperature of the batteries and cooling the inverter (#Hybrid).

PRE- AND AFTER HEATING

The AWP is also used as part of the electronic climate control system (ECC) to provide warm coolant to the (rear) heater during low RPM or engine stop (#Start/Stop system), but also to pre-heat the interior before the engine is started or after the ignition/engine has been switched off (#Parking heater).

NOTE: Some vehicles have up to 3 AWP's to control the thermal system.



By Dave Talbot, technical specialist



AWP FACTS

It's a (auxiliary) pump and it works electrically/electronically. The advantages are: Variable delivery rate (low during warm-up phase/high for quick cooling). Appropriate use has a positive impact on engine performance, fuel consumption and emissions. The electronic AWP is diagnosable via OBD and can be located anywhere in the engine compartment. The main reasons for failure of these pumps e.g. are aging and wear of the electric motor and/or malfunction of the control unit, caused by leakage or overheating.

REPLACEMENT > IMPORTANT: RESET THE ECU

Modern cars utilizing engine control units (ECU), multiple control inputs, and (by PWM signal) electronically controlled Auxiliary water pumps, typically improve performance and efficiency. A faulty or disabled AWP might cause overheating and the ECU to display a check engine light and the vehicle to fail on periodic inspection. **After replacement of the AWP the fault codes of the ECU must be erased.**



NRF VALIDATION

As every new product, also NRF AWP's are extensively validated and tested in our TECHcenter on quality, correct fitment, high performance and long durability.





NRF RANGE

The NRF AWP product range currently consists of 33 popular SKU's. More are in preparation and will follow soon. For detailed information ask your (local) supplier and/or visit the NRF website.

Please take your time and watch our new AWP video :

<https://www.youtube.com/watch?v=-5W49CiBiXc>

