



Water pump – UK/01 – 09/2022

WATER PUMP FITMENT RECOMMENDATIONS



COMMON PROBLEMS

Leaks from the water pump **SNR WPxx**



Due to a high number of warranty issues, we would like to remind you of the main water pump fitment recommendations. We guarantee that all SNR water pumps are interchangeable with the original OE part.

How to prevent water pump failures?

Most water pump failures are not due to poor pump quality. It is easy to identify pump failures, but it takes a good technician to determine the root cause of the failure and correct any issues that may cause the replacement pump from failing. Premature failure of the water pump is very often associated with deterioration of the internal (mechanical) seal following an incorrect installation.

What caused the water pump failure?

Before replacing the water pump, you should first diagnose the problem which caused the failure of the old water pump. On average a water pump circulates about 1.7 million litres of coolant over the course of 100,000 kilometres. If a water pump fails before that interval and is replaced without a proper diagnosis, the service life of the new pump may be somewhat shorter than it should be. Understanding what led to the water pumps failure will enable you to identify the root cause and take the required corrective measures.

Is it normal to find a little coolant around the drain hole?

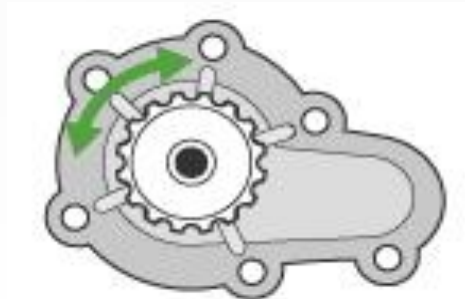
Once the new water pump has been fitted it is normal to see a small seepage of coolant to appear at the drain hole, as it takes some time for the internal seal of the pump to bed in and seal correctly (running-in period of 1 kilometre or 5 minutes run time) **So there's no need to worry.** Once the pump's internal seal becomes correctly seated, it will seal tightly, and the leakage will stop. If the pump shows signs of heavier leakage from the drain hole after the running-in period, it may indicate that the water pump is faulty or about to fail.



The most commonly found water pump issues

➤ Root causes and corrective measures

Most water pumps returned under warranty involve issues caused during the fitment process.



1. Dry rotation of the water pump

The coolant plays a very important role: it helps the engine maintain a constant temperature during operation, it also ensures the integrity of the water pump's internal seal. This "mechanical seal" is a "dynamic seal" or as it's generally referred to as a gland seal. When the water pump is in operation, the coolant penetrates between the two internal seal rings (a gap of barely a few microns) which rotate relative to each other, one part of the seal turns with the shaft while the other is secured within the body of the pump. The coolant penetrates between the seal rings and establishes the internal seal, preventing any leakage. Dry rotation of the water pump can permanently damage the sealing rings, causing noise and/or premature coolant leakage.

SNR recommendations: First of all, fill the coolant system, then turn the pump's drive pulley by hand through several rotations before installing the belt on to the pulley. This will cause a small amount of coolant to find its way between the two seal rings before you actually start the engine. If this procedure cannot be performed, either because the radiator hoses are disconnected or because you want to test the rotation of the new pump before installing it, submerge the pump in a container filled with fresh coolant and check its rotation without any risk.

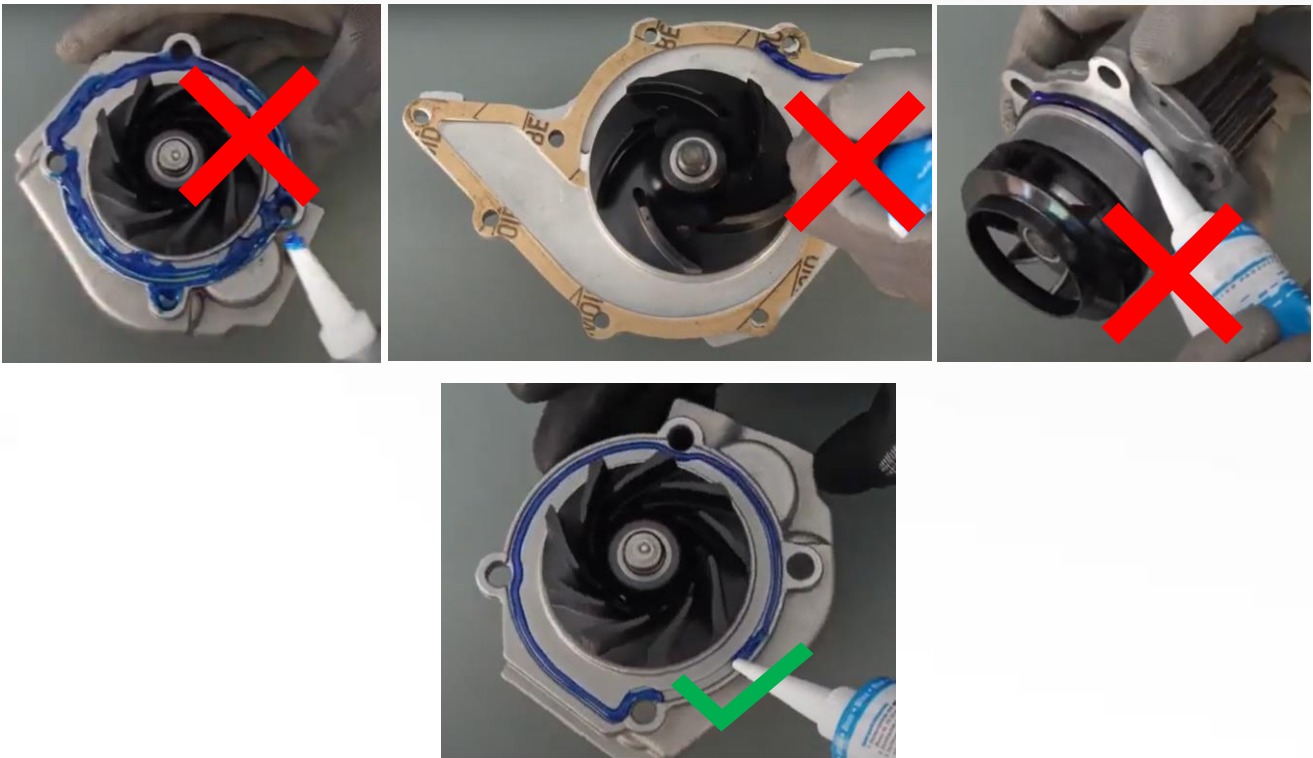


Note:

If you start an engine with a dry pump, the internal seal will be permanently damaged, eventually causing leaks.



2. Incorrect gasket placement or incorrect sealant application.



The addition of sealant along the sealing face of the pump can easily lead to incorrect water pump installation – and even damage certain sensitive components such as the pump's internal seal, this can lead to coolant leaks.

SNR recommendations: All the old seals and seal rings must always be replaced with new ones. Apply a sealant (sealing compound) only if specifically instructed to do so by the vehicle manufacturer.

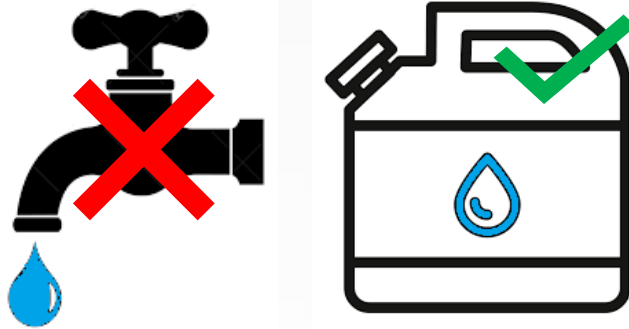
If the pump has a gasket – whether it be paper, metal, asbestos or an O-ring you do not need to apply sealant as it may cause problems. If the water pump has no gasket, sealant should be applied sparingly and only where directed. Apply a thin even layer along the edges and around the bolt holes on the impeller side of the assembly. An excessive amount of sealant can impair the fitment of the pump. Excessive sealant can cause the pump to become misaligned whilst the bolts are being tightened, the excess sealant very often ends up in the coolant system where it can cause significant damage. Basically the sealant particles become suspended in the coolant and lodge between the internal seal rings, this stops the seals from sealing effectively. **TIP:** If you need to hold the paper gasket in place whilst fitting the pump, submerge the paper gasket in clean coolant then place it on the pump face, this will help hold the gasket in place whilst the pump is being fitted.



Use a cleaning agent to clean and degrease the gasket mating surface on the engine block. Do not scrape the surface: Any damage to the mating surfaces may increase the risk of leakage.



3. Incorrect or poor-quality coolant.



The use of tap water, contaminated coolant, incompatible coolant, or a mixture of coolants will shorten the service life of the water pump. Harmful contamination is common in poorly maintained cooling systems. The contaminants (abrasive particles, crystals, engine oil, etc.) scratch the surfaces of the pump's internal seal rings and reduce its wear resistance, causing coolant leaks. For that reason, we strongly advise against re-using coolant. Unsuitable coolant does not provide the required level of protection against rust and corrosion: this will damage the pump's components.

SNR recommendation: Before installing a new water pump, drain all of the old coolant from the cooling system and flush it out thoroughly. The coolant should always be completely replaced with a **suitable coolant specified by the vehicle manufacturer**. These days, cooling systems are far more complex, as they comprise of components made of many different materials. The growing number of coolants approved by vehicle manufacturers is due to the need to protect these components against rust and corrosion. Always follow the manufacturer's specifications carefully when selecting coolant. Here are some examples of coolants on the market today.



Coolant
-25°C / **Type G11/G12/G12+**
pink, containing corrosion inhibitors, in compliance with the manufacturer's specifications
Basically, used for VAG applications.



Type D coolant, **yellow**, containing corrosion inhibitors, in conformance with the manufacturer's specifications
Basically, used for Renault applications.



Coolant t
-25°C / -30°C / universal,
green, generally ethylene glycol-based with the addition of corrosion inhibitors.



Coolant
-25°C / -30°C / -35°C / universal,
blue, generally ethylene glycol-based.⁶



4. Defective or incorrectly installed belt drive components



It is important not to overlook the relationship between the water pump and the belt drive system. When a belt, idler roller or a tensioner roller wear or are incorrectly installed, it is likely to cause the water pump to fail, just as a defective or incorrectly installed water pump can cause a premature failure of the belt system, whether it be the accessories belt or the engine timing belt.

SNR recommendation: Use a complete kit from **SNR** to replace all drive elements and the water pump at the same time, this helps optimises the service life of the entire system and minimises the risk of premature failure. Carefully follow the manufacturers fitment instructions, this normally covers the tensioning procedure, and the tightening torque specifications provided by the manufacturer.

By replacing all of the elements in the engine timing system while closely following the manufacturer's fitment instructions , helps you to assure your customer that their vehicle will continue to perform correctly in the coming years.



Recommendations

Follow the vehicle manufacturer's fitment procedures and apply the specified tightening torques. Refer to the vehicle applications in our online catalogue: eshop.nten-snr.com



Scan this QR code to access our technical information.

FOLLOW THE RECOMMENDATIONS OF THE VEHICLE MANUFACTURER!

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