

# Repair tips:

## Things to look out for with water pumps



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### Water pump leaks, shows signs of calcium/rust



**Cause**

Water with a high mineral content is added to the system, over a period of time

**Effect**

- ▶ Formation of deposits
- ▶ Restrictions to the flow of the coolant
- ▶ Damage of the seal of the pump

**Recommendation**

- ▶ Clean the cooling system before replacing a new waterpump
- ▶ Check system pressure, use correct coolant mixture
- ▶ Never use tap water

### Water pump leaks after topping up with coolant



**Cause**

- ▶ The ceramic seal is damaged by adding cold coolant to a hot system
- ▶ Engine runs with insufficient volume of coolant in the system

**Effect**

Sudden change in temperature causes the seal to crack

**Recommendation**

- ▶ Always allow the engine and cooling system to cool before adding fresh or cold coolant
- ▶ Never start the engine without coolant

### Water pump leaks, shows cavitation



**Cause**

Housing damage due to inadequate coolant, the incorrect mixture or usage of tap water to fill the system

**Effect**

- ▶ Overheating or boiling of the coolant
- ▶ Reaction with the body of the pump resulting in cavitation

**Recommendation**

- ▶ Clean the cooling system before replacing a new water pump
- ▶ Check system pressure, use correct coolant mixture
- ▶ Never use tap water

### Water pump leaks shortly after installation



**Cause**

Usage of excess sealant during the water pump installation

**Effect**

- ▶ Contamination of the seal
- ▶ Premature failure

**Recommendation**

Usage of the correct amount of sealant when installing

### Water pump doesn't turn freely



**Cause**

- ▶ Excessive drive belt tension
- ▶ Overload/failure due to vibration or imbalance
- ▶ Misalignment of the spindle and impeller within the body

**Effect**

Broken bearing

**Recommendation**

- ▶ Ensure correct belt tension
- ▶ Inspect fan
- ▶ Check condition and ensure correct alignment of all elements: pulleys, idler, belt, etc.



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