



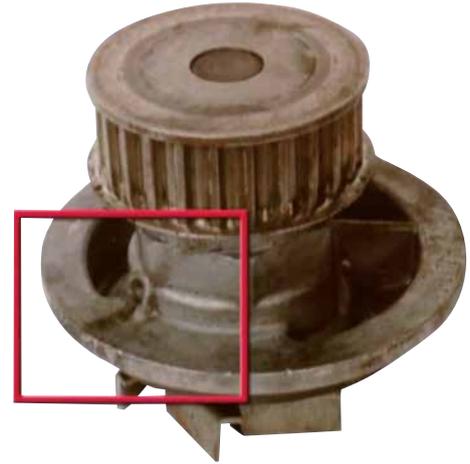
POSSIBLE CAUSES OF WATER PUMP FAILURE

1.

Traces of condensate or streak-like sediment on the leakage hole.

POSSIBLE CAUSE:

Rings of coolant and steam leakage are possible. Complaint because of leakages is not justified.



2.

Discharge of coolant at the leakage hole.

POSSIBLE CAUSE:

Corrosion in the cooling system. The cooling system was operated with pure water.

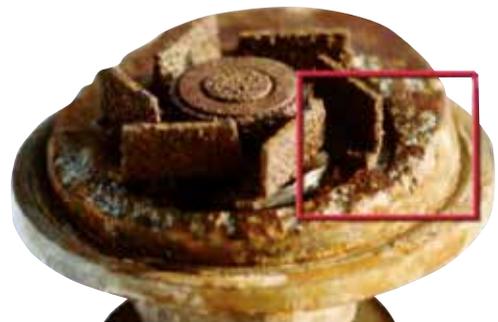


3.

Impeller wheel and housing badly damaged by pitting corrosion.

POSSIBLE CAUSE:

Expended cooling water with a large proportion of chlorides and salt compounds in combination with high temperatures.



4.

Water discharge at tube connector and housing seal.

POSSIBLE CAUSE:

Seals provided were not used. Sealant not applied properly.



5.

Tooth profile of the driving wheel slightly worn and rubber abrasion on the tooth flanks

POSSIBLE CAUSE:

Timing belt too tight.



6.

Fatigue fracture of the water pump bearing. Bearing cage and ring adapter ruined.

POSSIBLE CAUSE:

Vibrations and imbalance caused by defective fan clutch, leading to the pump bearing being overloaded.



7.

Heavily-corroded impeller wheel running surface.

POSSIBLE CAUSE:

Chemical damage to the slip rings caused by contaminated coolant



8.

Corrosion in the entire cooling system.

POSSIBLE CAUSE:

Defective cylinder head gasket. Motor exhaust reaches the cooling system causing the pH value to fall.



9.

It should be noted that coolants have a pronounced ability to dissolve deposits in the cooling system and have a far greater creeping ability than pure water. If the cooling system has not been cleaned and components damaged by corrosion have not been replaced, the smallest abrasive particles that have remained in the uncleaned engine will be detached after filling with new coolant. These particles inevitably get into the sealing gap of the mechanical seal. This seal requires the coolant as lubricant. Any kind of deposits accelerate wear and influence the sealing function.

CONSEQUENCE:

The water pump shows an unacceptably large leakage within a short time. The pump is leaking.

