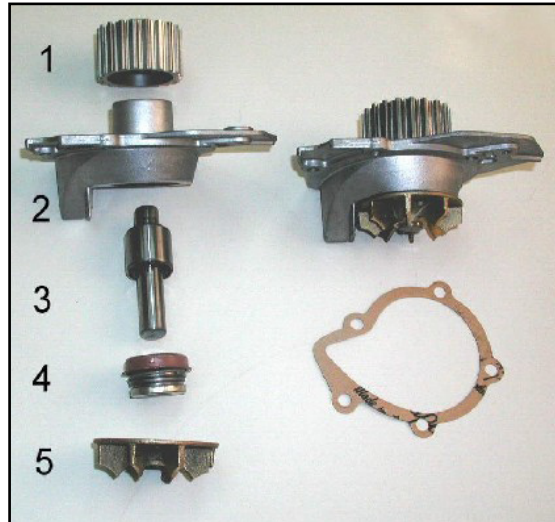


## Cooling



# Water Pump Components

COTB 0012



1. Drive pulley or flange
2. Pump body, usually constructed from die cast aluminium or cast iron.
3. Shaft and bearing set, typically double row ball or ball-roller for heavy duty applications.
4. Dynamic seal pack, consists of rotating slip rings with sealing surfaces constructed from one ceramic and one carbon seal face.
5. Impeller, available in a broad range of sizes, shapes and materials. Usually manufactured from pressed steel, cast iron, bronze or die cast. Latterly, the use of polymer plastics has become increasingly popular.

The water pump is a unit that is subject to wear and tear during normal use and when it fails it is often blamed for the failure of other engine parts.

However, in almost all cases people are confusing the cause with the effect.

There may be many external factors which may cause pump failure and they must always be correctly identified and rectified prior to installation of the new pump. If the new pump is not installed correctly then failure or reduced service life is inevitable.

In certain circumstances leakage of combustion gases from a faulty head gasket into the cooling system causes chemical changes within the coolant solution and attacks the sealing surfaces of the dynamic seal pack. Changes to pressure within the system can also occur and if any problems exist with the operating pressure of the system pressure cap then the springs of the seal pack will allow coolant to pass through the seal. The seal will fail due to pressure in excess of the rated level.