

Whatever your thoughts KEEP IT CLEAN



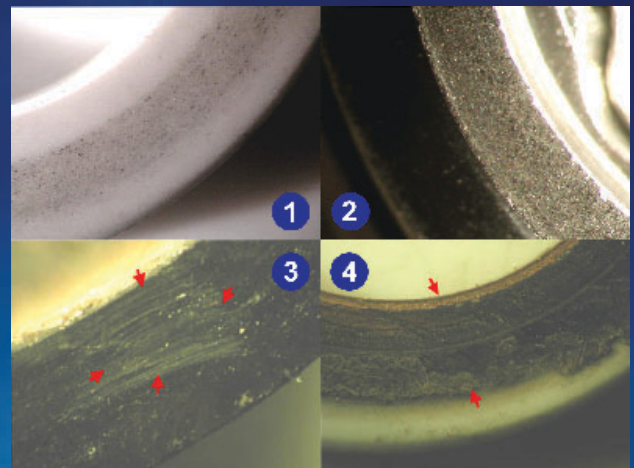
Quality coolant is important!

Before installing any new pump it is necessary to thoroughly flush the cooling system to remove any contaminants, scale and corrosion, some of which may have been dislodged during dismantling of the cooling system. **These contaminants could also be the reason for the failure of the original pump.**

On completion of the repair, the cooling system should be filled with a coolant solution using a quality anti-freeze containing a corrosion inhibitor at the strength determined by the vehicle manufacturer.

What's inside?

With the aid of an electronic microscope it is possible to analyse the condition of the ceramic and carbon sliding rings of the pump seals. Picture 3 displays the contact area of the carbon ring. The surface is badly worn after working with a coolant solution which contained highly abrasive contaminants. Picture 4 shows the ceramic ring which has evidence of surface deposits. These are the result of working with a dirty coolant solution which contained particles in suspension that have become attached to the seal surface. The use of defective coolant resulted in pump failure and coolant loss in both instances.



Pictures 1 and 2 show new carbon and ceramic seals.

It's a stick up!

With the increasing use of "face-fit" joints by engine manufacturers, another source of water pump failure is becoming widespread. Excessive use of gasket sealant or "instant gasket" during installation of pumps leads to strands of sealant detaching from the joint and circulating throughout the cooling system. The ceramic and carbon seals rely on the presence of coolant between their faces for lubrication purposes during normal running. When sealant particles are present in the coolant they become deposited on the seal faces leading to leakage and ultimately pump failure.



Picture 'A' displays a pump where the 'surplus' sealant has become detached and is clearly visible on sections of the impeller and pump body. The sealant travelled into the pump seals causing coolant loss, vehicle breakdown necessitating recovery, considerable rectification costs and inconvenience to the car owner.

Picture 'B' illustrates a pump where the sealant has been applied so liberally that it has adhered to the outer pump casing and drive pulley. Needless to say, the pump failed after a short running time but was returned under complaint as 'faulty'.

Picture 'C' shows a ceramic seal with deposits of sealant attached to its face resulting in coolant loss.

This poster has been compiled from actual case studies that have been processed by the First Line Quality Department.



Now that you have changed the water pump, don't forget other crucial parts of the cooling system.

Radiator Caps Thermostats Fan Switches

Don't mess it up!

FIRST LINE QUALITY AUTOMOTIVE COMPONENTS