

IMPORTANT PRESSURE VARIATIONS OPEN TWO CONTACT RINGS

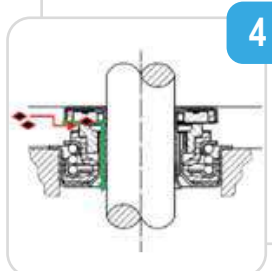
WHICH PECULIARITY HAVE THE DYNAMIC SEAL USED BY THE WATER PUMPS?

Like it can be seen in the **picture 1**, the dynamic seal, that is the part that assures the tightness of the pump in movement, is composed by two main parts:

- RING JOINED TO THE BEARING SHAFT
- RING JOINED TO THE WATER PUMP BACKHOUSING.

There is a spring (**picture 4**) that pushes the ring joined to the water pump housing against the silicon carbide ring. This spring can be opened easily with the fingers. If we push the ring joined to the water pump housing like appears in the **picture 2**, two contact faces are opened and the water pump leaks.

## ¿CAN BE PRODUCED A WATER PUMP TEMPORARY LEAKAGE?



**NO,**  
IF THERE ARE NOT PRODUCED ANY OF THE FOLLOWING CAUSES:

1.- Solid particles dissolved in the coolant of less than 0.5 mm thickness  
These particles can get between the two contact faces of the dynamic seal and cause a temporary leakage in the water pump caused by the imperfect meeting of the two friction rings. When the two contact rings of the dynamic seal are in constant rotation these particles can be expelled from them by the centrifugal force of the rotation.

2.- When there are air bubbles in the cooling circuit and they contact with the dynamic seal, it is produced a negative pressure variation in the dynamic seal spring that opens two dynamic seal contact faces producing water pump leakage (**picture 2**). When this pressure disappears, the dynamic seal pushes two dynamic seal contact faces like appears in **picture 1** and the leakage disappears.

## IT CAN BE DETECTED THE TEMPORARY LEAKAGE BY THE MECHANIC?

**Yes, in case of existence of air bubbles in the cooling circuit.**

If it is observed that the water pump leaks by the exhaust holes it must be done the following:

- To verify that the expansion tank coolant levels are between maximum and minimum.
- If the cooling circuit has systems to remove the air like screws, use them.
- Open the expansion tank or the radiator cap and start the engine. In 5 minutes the air bubbles should disappear from the cooling circuit.

## WHAT TO DO IF YOU OBSERVE SMALL TEMPORARY LEAKAGE STAINS FROM THE WATER PUMP

**If you observe coolant marks in the water pump exhaust holes, but the water pump doesn't leak, it is not necessary to change the water pump by this reason. This marks were produced in a determinate moment due to the temporary leakage issue.**

