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When the pump fails!

BEARING FAILURE SYMPTOMS

4c71 Frictional corrosion damage

The condition of the seat

Based on the condition of the seat, a wide v Rings mov -
ing against the seats make noise which can be a disturbance. They also result in frictional corrosion and wear. In turn the lubrication may be contaminated by corrosion and/or abrasive particles. Moreover, the ring support may continue to worsen, and the frictional corrosion can make it difficult to take the components apart. Some examples are provided below:

Fretting / frictional corrosion

Characteristics:

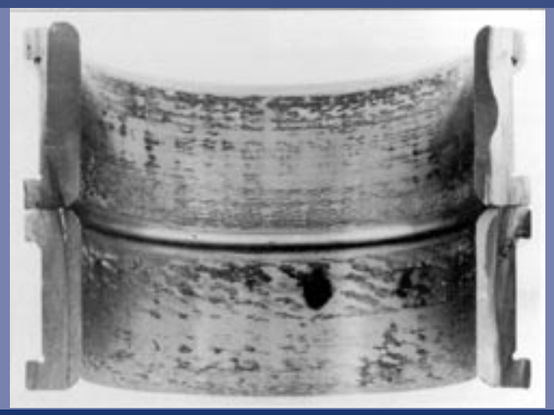
Brown-black spots on the seat, brown abrasion in part close to the bearing or in the lubricant. Wear of the mating surfaces (bore, shell diameter), in case of rotating parts (shaft for the most part) fatigue failure possible, in case of idle parts (primarily housing) possible disturbance of loose bearing function. It is possible to identify such frictional corrosion based on location and size of the load zone and/or a turning of the rings.

Causes:

– Micro-movements between the fitted parts with too loose fit, but no turning rings.
– Disturbances of mating surfaces
– Waves due to laying, deformed housing
– Functionality of movable bearing at the ring with peripheral load

Remedy:

– Ensure functionality of movable bearing at the ring with point load
– Use as snug as possible bearing seat
– Make shaft (housing) more rigid
– Coat bearing seats
– In case of high operating temperatures, use dimensionally stabilized rings (prevents loosening of fit due to ebullition of the rings resulting from structural changes in steel)
– Improve roundness of seats
  Check and, if necessary< improve surface quality of the seats



Frictional corrosion in the borehole of the inner ring of a cylindrical roller bearing with very loose seat

Frictional corrosion makes the size of the load zone apparent on the idle outer ring.