



KS Sputter bearings - Design and installing instructions

What are Sputter bearings?

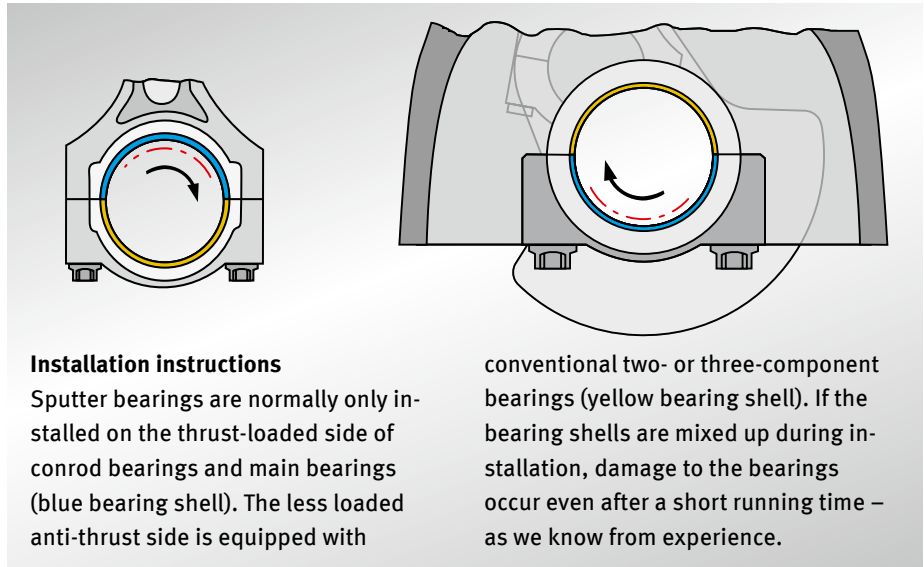
Sputter bearings are bearings with a surface coating that is applied by a PVD (Physical Vapor Deposition) procedure. This surface coating is considerably thinner and more resistant to wear than on conventional bearing shells manufactured with a galvanised surface coating. KS supply Sputter bearings for original equipment (OE) to numerous automotive manufacturers and for the worldwide after-sales market.

Why Sputter bearings?

Stresses on bearings have increased constantly in recent years due to higher engine performances – in particular on turbo-charged diesel engines. To cope with these greater bearing loads, it has been necessary to develop bearings with higher wear resistance and higher strength. Compared to conventional bearings, Sputter bearings can withstand a 50% greater stress, and this with identical bearing dimensions.

Fields of Applications

Sputter bearings are primarily used on diesel engines for passenger cars and commercial vehicles. The reason for this is the increased stressing developed in diesel engines due to the working principle and the resulting increased working pressures. On gasoline engines, Sputter bearings are only used in a few exceptional cases.



Installation instructions

Sputter bearings are normally only installed on the thrust-loaded side of conrod bearings and main bearings (blue bearing shell). The less loaded anti-thrust side is equipped with

conventional two- or three-component bearings (yellow bearing shell). If the bearing shells are mixed up during installation, damage to the bearings occur even after a short running time – as we know from experience.

Fig. 1

Distinctive Features

For a better differentiation, KS Sputter bearing shells are marked with the word “Sputter” on the back of the bearing (Fig.2). As a result, the bearings are clearly distinguishable from bearing shells of the conventional type.



Fig. 2: KS Sputter bearing shell

! If an engine has been designed with Sputter bearings, the bearing positions should be equipped with these. Switching to bearing shells of the conventional type results at least in a marked reduction of the service life – or even in immediate damage to the bearing.

Tip:

In order to guarantee a successful engine repair, a pressure-oil filling should be always carried out on overhauled engines. In this way, damage to the various bearings caused by inadequate lubrication can be avoided on initial start-up of the engine. On this issue, see also KS Service Information No. 0012 “Oil Circuit Pressurizing Procedure”.

The right of changes and deviating pictures is reserved. For exact details about applications, please refer to our current catalogue / CD / OnlineShop.