Identifying Bearing Failure

Certified Bearing Specialist (CBS) Takes on Lime Quarry's Harsh Environment

Guy Gendron, certified bearing specialist and technical sales representative at Timken Canada L.P. explains how he used his bearing expertise to increase a customer's productivity.

"Working for a bearings manufacturer, we are often asked by our distributors to visit end users who experience bearing problems, to examine them and find potential solutions.

I visited a lime quarry, which had several unplanned bearing replacements, causing production interruptions. My goal was first to identify the cause of the bearings failures and identify the customer expectations, such as improving time in operation, better maintenance practice, guidance on bearing installation, etc.

A lime quarry is a very harsh environment for bearings; limestone is very abrasive. I found out that the type of bearings causing production interruption were mostly spherical self-aligning double row bearings installed in split cap housing (plummer block). Several conditions were found, contamination of the lubricant due to seals wearing out from the abrasive stone, mounting procedure of the taper adapter on the spherical bearings had to be reviewed and several bearings were mounted with a RIC too tight. Several pillow blocks were installed in hard-to-reach areas, which made the bearing adjustments hard to do on site.

The end user was looking for an easy-to-install pillow block, having the load capacity for the application, with a better protection against the harsh conditions. Not requiring any structural modification on his part, in other words, being dimensionally similar to the existing plummer block.

I was able to offer them a Spherical Roller Bearing Solid Block pillow block with the same principal dimensions as the plummer block, using the same sized spherical double-row self-aligning bearing, having features such as an extended inner race on which the seals are sitting, having the seal in contact with the inner race of the bearing versus having the seal in contact with the equipment shaft as the plummer block design improved seal life and does not damage the shaft, the Timken unit uses a triple leap self-purging urethane seal which has a ten times better resistance to abrasion versus the standard nitrile seal material, for ease of installation we use the double V-lock locking system, thus avoiding using a filler gauge to adjust the RIC and you cannot over tighten the bearing. For extra protection, we installed auxiliary covers fill with grease to create a barrier against contaminants. The installation of this type of pillow block also reduces the downtime.

In conclusion, by finding out the customer priorities, inspecting the damaged bearing to find out the reason of the failure, we were able to replace the SNL22520 × 3 7/16 TG with a Timken QVVPN20V307SO with cover CV20T307S. We more than tripled the life of the bearing." **PTE**

For more information:
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Certified Bearing Specialist

BSA's Certified Bearing Specialist (CBS) program is the only bearing industry-specific program that identifies and quantifies the specific skill sets to certify an industry professional as a bearing specialist. The CBS program is all about developing the expertise to help customers and end users make the best bearing decisions. Take advantage of this complimentary access to a Certified Bearing Specialist. Please email your question to *info@bsahome.org*. An expert CBS will respond to your inquiry and it may appear in this article.

Guy Gendron, CBS and technical sales representative at Timken Canada LP, is a seasoned specialist in bearings and power transmission, having worked in this industry for more than three decades. Over the length of his career, he has worked for distributors and manufacturers at various levels of sales and management.

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