The Quick Fix

REXNORD SOLVES BEARING INSTALLATION/REMOVAL CHALLENGES

At a Midwestern producer of tubular steel products, measures taken to counteract the effects of impact on a quench tank roll made it difficult to remove and replace the conventional pillow block bearings that support the roll's shaft. The bearings were replaced with adapter mount roller bearings that are easier to install and also will be easier to remove. The mill produces oil and gas well casing steel and line pipe in diameters from 7" to 16", with wall thicknesses up to ½".

Previously, as the head end of a tube entered the quench tank to be cooled, impact tended to move the shaft that supported the roll to one side because the former bearings did not lock tightly enough to the shaft. To keep the shaft centered, the company welded steel washers to the end of the shaft. This made it difficult to remove and replace the bearings. The company's maintenance planner and supervisor explains, "Any time we changed a bearing, we had to cut the washer off and dress the shaft. If the bearing was there for a long time, the mill scale, dirt and grease would build up, and we couldn't get the bearing off of the shaft."

Rexnord ZA6215F adapter mount roller bearings with Shurlok technology incorporate a tapered locking sleeve to maintain bearing position on this quench tank.

The design of the replacement bearings addresses this common problem by incorporating a withdrawal sleeve into each bearing. As the adapter nut is unthreaded, the design automatically pulls the tapered adapter sleeve from the assembly, releasing the bearing from the shaft without causing damage, which saves both time and repair costs.

Bearings operate in a difficult environment on this quench tank application. Impact of tubes entering tank caused the roller shaft to move sideways with previous bearings.

Bearing installation also could be problematic for the mill. The company's maintenance planner says, "The bearings we had on previously just had locking collars with no taper at all. Because things didn't work there in the past, we were just buying regular pillow blocks and tapping them in place ourselves."

To address the problem, the company selected Rexnord ZA6215F adapter mount roller bearings with Shurlok technology for the application because they incorporate features that eliminate the previous installation and removal problems. These bearings are utilized in industries such as forestry, mining, steel, cement/aggregate and air handling. They come equipped with a positive locking system, tapered mounting sleeve, hourglass rolling elements and super-finished raceways and rollers.

These features allow for quick and easy installation, reduce shaft damage caused by loose mountings, provide three degrees of static and dynamic misalignment and provide a cool running, quiet, high speed and high load capacity design. An innovative tapered sleeve

Optical Strain Sensing (OSS) technology in new bearings changes color to tell the installer when the bearings have been correctly tightened to the shaft.

design maintains mounting tightness during operation, provides 35 percent greater shaft grip than other adapter sleeve bearings, and allows for better shaft grip in the mill's application. To ensure a correct installation, the new bearings incorporate SpyGlass Optical Strain Sensing (OSS) technology, which provides visual feedback that tells the installer when the bearings have been correctly tightened to the shaft. The sensor incorporates materials that respond to strain by changing reflected light wavelengths. It is calibrated so that the window stays clear until there is enough strain on the locknut to provide a sufficient load. At that point, OSS window changes color, showing that the bearing is correctly installed.

Operating conditions for the bearings include the effects of impact, as well as typical mill scale, dirt and grease. The spokesperson says the bearings have performed well since their installation in early 2008. He reports that the company is considering using them on other applications in the mill based on their combination of features and performance.

For more information:

Rexnord Corporation
4701 W. Greenfield Avenue
Milwaukee, WI 53214-5310
Phone: (414) 643-3000
www.rexnord.com

product news

Lee

OFFERS READY-TO-MOUNT LINEAR SYSTEMS

Lee Linear, a manufacturer of linear motion components, offers a variety of combinations of individual shafts and rail components. Lee Linear offers ready-to-mount linear systems that can be easily incorporated in almost all drive control applications. U.S. manufactured aluminum shaft support rails in standard lengths of both 24" and 48", are used in shaft rail assemblies as economical methods for mounting case hardened and precision ground 60 Plus or 440C shafting. The assemblies conform to industry specifications and provide stable and highly efficient linear motion guidance for continuous or intermittent load operations. Shaft and rail systems are available in six standard configurations, which incorporate a single, double, or twin pillow block. Either two cast steel support blocks or an aluminum rail can support the carriage plate. The patented Lee Roller Bearing Pillow Block provides for self-alignment capabilities, easier clearance adjustment, and better corrosion resistance with longer life expectations and operations at higher speeds. Systems are available with either the Roller Bearing Pillow Blocks or with Precision Plus self-aligning linear ball bearing pillow blocks.

"Optimizing a system to obtain a maximum economic advantage can be challenging," said Lee's CEO, Alan Haveson. "Lee's shaft rail assemblies and systems provide cost-effective solutions. With our larger rolling diameter pillow blocks, we are able to provide smooth and consistent operations even at high speeds."

For more information:

Lee Linear
727 South Avenue
Piscataway, NJ 08854
Phone: (800) 221-0811
www.leelinear.com

Hansen

EXTENDS GEARBOX PRODUCT OFFERING FOR EMEA REGION

Industrial gear unit specialist Hansen Industrial Transmissions (HIT), acquired by Sumitomo Heavy Industries (SHI) Ltd. in March 2011, recently announced that its European assembly center, based in the Antwerp gear plant, will integrate the engineering, production, assembly, sales and service of the Paramax industrial gearboxes of Sumitomo for the Europe, Middle East and Africa (EMEA) region. As such the company has forged, together with the Power Transmission & Controls group of SHI, a customer oriented sales and service platform. Alongside, a clear

product strategy for the EMEA region has been developed, offering its customers and end users a more accurate selection of gear units to serve both high and low torque applications. With the regional sales and service network all over the EMEA area, higher and more flexible availability of local contacts is assured. Integrating Paramax gear units in the HIT product portfolio and incorporating the production of Paramax in the Belgian gear plant later this year, customer responsiveness will improve significantly.

For more information:

Hansen Industrial Transmissions N.V.
L. da Vincilaan 1 B-2650 Edegem
Antwerp – Belgium
Phone: +(32) 3 450 12 11
www.hansenindustrialgearboxes.com

Thomson

RELEASES FLUORONYLINER BEARINGS

Thomson Food Grade FluoroNyliner Bushing Bearings feature a non-magnetic 303 Stainless Steel corrosion resistant sleeve with a self lubricating liner that is FDA and USDA compliant, enabling them to excel in challenging food processing, pharmaceutical and medical applications. They are offered in Open and Closed types, with specific machining options available to satisfy unique application requirements.

"By eliminating the need for ball bearings, these food grade bushing bearings can operate on soft shafting such as Thomson 'corrosion proof' 316 Stainless Steel or Ultra Light Aluminum LinearRace shafting to deliver exceptionally long life and reliable operation in washdown environments," says Tom Dwyer, business unit manager, Thomson Linear Bearings and Guides.

Thomson Food Grade FluoroNyliner Bushing bearings feature robust liner material that can withstand a maximum continuous PV value of 10,000 psi ft/min, can handle high loads with a maximum static pressure value of 1,000 psi, and provide maximum no load speeds to 400 ft/min. in temperatures ranging from -400°F up to 385°F. They are available in optional Stainless Steel pillow block assemblies in Closed, Open, Flanged and Twin styles, and can be combined with a wide range of corrosion resistant LinearRace shafting options, including 440C and 316 Stainless Steel, Ultra Light aluminum and plated 60 Case, to deliver optimized performance specific to the application requirements.

"Stainless Steel pillow block assemblies are a particularly significant option in food processing applications, as carbon steel will corrode over time, and even aluminum is susceptible to corrosion caused by the caustic solutions commonly used in washdown environments," explains Dwyer.

Thomson also offers a number of additional 440 Stainless Steel corrosion resistant linear bearing alternatives to help keep machines up and running in application environments subject to corrosion challenges. These include Precision Steel Ball Bushing bearings that provide reliable operation in temperatures up to 600°F, Metric MultiTrac Ball Bushing bearings that provide twice the load carrying capacity of conventional ball bushing bearings, and self-aligning Super Ball Bushing and Super Smart Ball Bushing Bearings that, in combination with genuine Thomson 60 Case Shafting, can provide up to 50 percent longer life than imitation bearings and shafting.

For more information:
Thomson
1500 Mittel Boulevard
Wood Dale, IL 60191-1073
Phone : (540) 633-3549
thomson@thomsonlinear.com
www.thomsonlinear.com.

Muncie

OFFERS GEAR PUMP AND POWER DRIVE TECHNOLOGY

Muncie Power has improved traditional gear pump technology with the development of the Optimum series hydraulic gear pumps, which offer a unique, bushing style design with enhanced durability and pressure capabilities while still maintaining a reasonable size and competitive cost. These specialized hydraulic gear pumps incorporate a distinctive load holding feature known as the "Opti-Grip." The "Opti-Grip" design contributes to proper housing alignment and also helps prevent casting separation and pressure bulging, which allows the Optimum pumps to operate at high pressures. Large shaft journal diameters resist shaft deflection, and ultra-premium bushings allow for long-term usage in extreme conditions.

In addition, the Optimum series utilizes a 13-tooth gear design, which reduces the frequency of the hydraulic pressure pulses in the system, reducing hydraulic noise. The Optimum series is available in three frame sizes, W, X and Y, with flow rates from 6–62 gpm at 1,000 rpm with pressure capabilities up to 4,350 psi. Optimum products are designed to be bi-rotational and include side and rear ports, making them quite versatile. SAE straight thread ports are standard on all units, however; split-flange ports are optional for side ports on all frame sizes. This flexibility of-

fers reduced inventory levels for service replacement units.

SS88 series. Just what are your options if your truck has only one PTO opening and you need to drive more than one auxiliary device? Perhaps your best bet is to take advantage of Muncie Power Products' new Auxiliary Power Drive SS88 series Splitshaft PTO. The SS88 series makes it possible to mount two, 8-bolt type PTOs in the main drive shaft behind the transmission on medium and heavy duty vehicles. There are two through shaft torque options available for the SS88**:**14,000 lb. ft. rating and the 21,000 lb. ft. rating. A high quality 6-pitch spur gear is equipped in the PTO drive gear for the SS88 and can endure the torque ratings of the large 8-bolt PTOs, such as the Muncie 82 series. Air or hydraulic through shaft options are available to disengage the rear axle which allows for stationary operation. PTOs can be mechanically, air-mechanically and/or air-clutch shifted depending on the series specified.

For more information:

Muncie Power Products
201 East Jackson Street
Muncie, IN 47305-2834
Phone: (765) 284-7721
www.munciepower.com

Graphalloy Bushings

OFFER OIL FIELD SOLUTIONS

Graphalloy wear rings and bushings from Graphite Metallizing Corporation provide performance superior to standard metal stationary and rotating wear parts in pumps for CO_2 service in oil field applications. Self-lubricating Graphalloy, a graphite/metal alloy, alleviates concern about bearing failures or possible flashing of CO_2.

The ability to operate without additional lubrication is important in CO_2 injection applications because CO_2 has low lubricity. Standard metal wear parts rely on the lubricity of the liquid being pumped for proper operation so they are prone to failures in pumps used to inject CO_2. In addition, due to high suction pressure required to keep CO_2 as a dense phase liquid, flashing is always a possibility.

CO_2 injection in older, low flowing wells is becoming an increasingly popular method for permeating rock formations and forcing more oil to the surface. Many older wells still contain vast amounts of oil locked in the pores of rock layers deep underground. CO_2 injection often releases more oil in older wells than can be released by water injection.

"Use of self-lubricating, non-galling Graphalloy materials in pumps for CO_2 service provides substantial cost savings by avoiding expensive downtime and field repairs caused by wear part failures," said Eben Walker, general manager of Graphite Metallizing Corporation. "Graphalloy is currently the material of choice for many oil field applications in North America and around the world."

For more information:

Graphite Metallizing Corporation
1050 Nepperhan Avenue
Yonkers, New York 10703
Phone: (914) 968-8400
www.graphalloy.com

Ondrives

INTRODUCES REMOVABLE TOP LINEAR SHAFT SUPPORTS

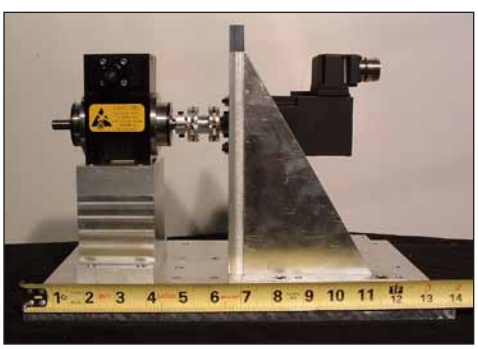
Ondrives US Corporation announces removable top low profile linear shaft supports. Top loading offers easier assembly and re-alignment of shafts and bearings when needed with less downtime. The removable top allows quick replacement without the loss of alignment position. These patent pending LPB Shaft supports are also low profile, only 0.87" high for 0.25" shaft diameter. They are precision manufactured in aluminum, are gray anodized and have alloy steel fasteners. Ondrives US Corporation also manufactures precision ground stainless shafting in 303, 316 and 17-4 PH with a hardness of RC 40.

For more information:
Ondrives US Corporation
216 N Main Street
Freeport, NY 11520
Phone: (888) 260-7466
www.ondrivesUS.com

Sakor Dynamometers

ENGINEERED FOR LOW POWER APPLICATIONS

Sakor Technologies, Inc. recently introduced the MicroDyne series of small motoring dynamometers. Suitable for a wide range of automotive, military and aerospace testing applications, this newest innovation from Sakor is capable of testing all types of small rotary devices such as motors, pumps, generators, compressors and more. The MicroDyne is a fully functional, four-quadrant dynamometer engineered specifically for low power applications. Versions are available in sizes from 100 watts to five kilo-



watts. For applications operating at five kilowatts and above, Sakor's AccuDyne AC dynamometer system is readily compatible with larger rotary components as well as conventional engine and powertrain systems, hybrid vehicle drives and electric motors. Both the AccuDyne and MicroDyne offer precise speed and torque control. This is especially true in low speed applications where full torque can be applied all the way to stall (zero speed). Modern drive technology also allows the systems to provide seamless crossover between motoring and loading modes. Advanced features for more sophisticated testing requirements include inertia simulation, engine simulation, and NVH testing capability.

For more information:
Sakor Technologies
2855 W. Jolly Road
Okemos, MI 48864
Phone: (517) 332-7256
www.sakor.com

Zero-Max

OFFERS ETP EXPRESS BUSHINGS

ETP Express (Model R Stainless Steel) keyless shaft locking bushings feature high torque capacity. They are suitable for locking into position gears, pulleys, sprockets and other components in a machine's power transmission system. Handling torque ranges from 34 to 6,400 ft. lbs., these stainless steel ETP Express-R shaft locking bushings work in systems requiring frequent washdowns because they are easily cleaned and won't corrode. They have sealed, clean lines that resist debris collection and clean easily without any special maintenance, according to the company.

"The torque transmission capacity for these ETP Express-R stainless steel bushings is two-and-a-half times greater than conventional bushings. Their unique design made of stainless steel makes this possible," reports Robert Mainz, Zero-Max sales manager. "They are ideal for the high performance requirements of servo systems and especially systems where space limitations are present. They provide high torque transmission and have a very compact footprint."

ETP Express-R bushings feature just one radial actuation screw for fast mounting, repositioning and phasing of the components to the shafts. They position in seconds and can be readjusted many times just as quickly and without any axial movement of the bushing or component along the keyless shaft. An Allen wrench is all that is required to mount and lock these bushings into place.

For more information:

Zero-Max
13200 Sixth Avenue North
Plymouth, MN 55441
Phone: (800) 533-1731
www.zero-max.com

Bauer

SUPPLIES GEAR MOTORS FOR BRIDGE CONSTRUCTION

Russky Island is located just off of Vladivostok, Russia, with the Eastern Bosphorous strait separating the island from the Muravyov-Amursky Peninsula. As part of a massive regeneration project, development work began to turn the island into a large-scale, state-of-the-art tourist resort. Plans were drawn up for the construction of a bridge that would link the island to the mainland. That same year, it was announced that these new facilities would host the APEC summit in September 2012. A fast-track construction schedule was initiated resulting in the last section of the central span being lifted into place on April 2, 2012. The bridge is expected to be opened for traffic by July 2, 2012.

With Vladivostok being the largest Pacific port in Russia, the bridge had to be high enough to allow passage for any

class of vessel. In addition, the Eastern Bosphorous strait is 1,460 meters wide in the bridge project area. The finished bridge breaks numerous world records, rising more than 70 m above the high

water level, with a central span 1,104 m long. Pylons 320 m high will hold stay cables 580 m long.

One of the most demanding phases of construction was the assembly of the central span, made up of 103 panels, each 12 m long, 26 m wide, and weighing a total of 23,000 tons. The panels are aerodynamically designed to give the bridge maximum stability in the high winds for which the region is renowned. The panels were delivered by barges which were carefully positioned under the installation using GLONASS, a Russian global satellite navigation system.

Lifting the enormous panels from the barges to an elevation of 70 m and into position was a precision operation taking about one and a half hours to complete. A special crane needed to be developed for this unique application. That development was put in the hands of the Mostovik Crane Factory, which specializes in the manufacture of large-capacity cranes for the most challenging applications. A custom-designed Mostovik derrick crane was installed on the bridge center span deck, cantilevered over the nose and facing toward the strait. The crane was equipped with a wind gage, a lifting height indicator, and an indicator that shows precise panel position during the lift.

The application requirements for this crane would have to lift and safely position panels weighing more than 300 tons each and operate reliably in extreme temperatures as low as -30°C. To meet these requirements, Mostovik Crane Factory turned to Bauer Gear Motor.

Bauer supplied BF Series geared motors, with torques from 10100-13400 Nm. BF Series geared motors can be mounted in any required position – horizontally, vertically or suspended. Total flexibility in mounting options includes

shaft, foot, face and flange solutions. The motor terminal box can be mounted in alternative positions rotated in 90-degree steps around the motor frame.

Generously dimensioned ball or roller bearings, case-hardened forged and ground gears, and internally and externally reinforced gearboxes ensure a long, low-maintenance service life. A hardened wear sleeve and spray ring at the rotor seal allow for reduced sump capacity, reliable lubrication and many years of leak-free performance.

The BF Series geared motors are completely enclosed and sealed to IP65 as standard (IP66 optional) against dust and water spray. Important for use in the Russky Island bridge application, the geared motors also provide comprehensive corrosion protection.

For more information:

Altra Industrial Motion
449 Gardner St.
South Beloit, IL 61080.
Phone: (815) 389-6227
www.altramotion.com

Baldor

OFFERS COMPLETE LINE OF AC MOTORS

Baldor Electric Company now offers customers in North America access to the most complete line of large AC motors in the world from a single, local sales team. Baldor Reliance stock and custom motors are available up to 15,000 hp, while ABB induction and synchronous motors are available up to 100,000 hp. This large AC motor offering includes both NEMA and IEC configurations, assuring customers they will get the motor that meets frame, enclosure and duty cycle standards for any application, anywhere in the world. Every large AC motor is designed and built for reliability, energy savings and rugged performance. Local presence, combined with a global technical field sales support team serving both Baldor and ABB, means customers will receive the best service and support in the industry.

For more information:

Baldor Electric Company
5711 R.S. Boreham, Jr. St.
Fort Smith, AR 72901
Phone: (479) 646-4711
www.baldor.com