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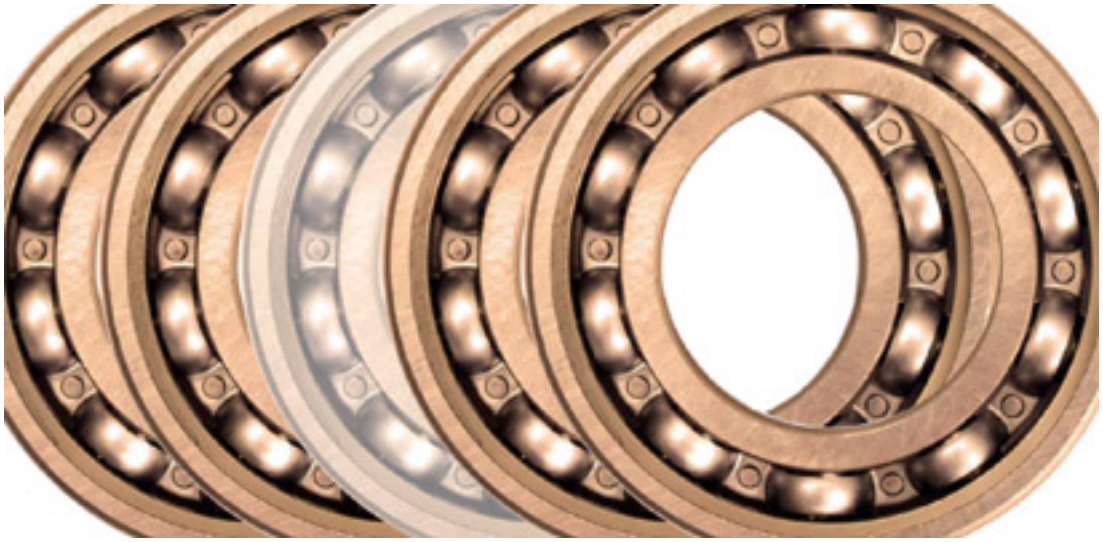

Get real when it comes to components. Anything less is too risky.

"We're buying spare parts from a new supplier who has offered us an amazing discount. They appear to be genuine machine parts, but we're not sure how that's possible at these prices? Should we be concerned?"

"Our new equipment has shown increasing failure rates of basic parts: roller chains, bearings and seals. We have not changed our maintenance practices one bit. But the failures have increased. Should we be concerned?"

Absolutely, positively, without a doubt, 100% YES! You should be very concerned…and for good reason!

Today's global economy coupled with a lingering/growing/lingering recession and the hunger for money has led to an explosion of scams and counterfeit, fake, pirated, bogus and sub-standard industrial parts. Manufacturers, trade associations, governmental units and law-enforcement agencies have been taking steps to stem the frightening flow of these products into the global and U.S. supply chains.

In March 2008, Boeing engineers presented a technical paper entitled "The Counterfeit Parts & Materials Challenge" that stated: "Nearly anything can be counterfeited. Parts such as bolts,

nuts, rivets and fluid fittings are all components that can easily be replicated and sold. But the list doesn't end there. Electronic components, such as capacitors, resistors and integrated circuits, as well as materials like titanium and composite chemicals, are also commonly counterfeited… Counterfeit parts are usually half or less of the street price for genuine goods."

Analysts have estimated that counterfeiting costs U.S. companies over $250 billion annually ($600 billion worldwide). Over 750,000 jobs may be lost because of the fake, bogus, counterfeit and smuggled products entering our marketplace. And the problem is forecast to grow even larger.

U.S. government takes action

Counterfeit parts certainly cost American jobs—*and could even cost American lives*. For example:

- The U. S. Department of Commerce has estimated that our automobile industry could employ 210,000 new workers if the influx of counterfeit products could be eliminated.
- In a January 2010 report, the Commerce Department's Bureau of Industry and Security, Office of Technology Evaluation noted that troubling amounts of counterfeit electronics are already present within the U.S. Department of Defense (DOD) supply chain.

In June 2011, the National Intellectual Property Rights Coordination Center launched "Operation Chain Reaction," a comprehensive initiative targeting counterfeit items entering the supply chains of DOD and other U.S. government agencies.

"Counterfeit and pirated goods present a triple threat to America," observed John Morton, the director of U.S. Immigration & Customs Enforcement (ICE). "They rob Americans of jobs and their innovative ideas; fuel organized crime; and create a serious public safety risk. Counterfeiting has evolved to such a great extent that intellectual property thieves will sell just about anything that will make them a buck, with no regard for integrity of the federal supply chain or the safety of our war fighters. Anytime you purchase a knock off or pirated product, it's a virtual certainty the quality and reliability will be inferior to the genuine article." (See Sidebar) .

China strikes again

In case you didn't know it, there's a very healthy global underground market for industrial bearings, seals, roller chains, electronics parts, computer hardware and other assorted equipment parts. One of the most distressing problems is associated with bearings. These mission-critical items are an enormous business in China—*netting nearly $4.3 billion in sales.*

Bearings are an essential component in almost any machine or appliance with moving parts. More and more consumer products, ranging from washing machines to cooling fans and from automobiles to motorcycles, are being manufactured in China.

The explosive rise in sales of low-cost cars in China is creating a huge opportunity in bearings for both the OEM and the automotive after-market. All in all, the demand for bearings produced by local Chinese suppliers has skyrocketed.

Although no specific type of bearing has been targeted by counterfeiters, according to Derwyn Roberts, the general manager of SKF's Automotive Division in China, the automotive after-market is one area of growing concern: The bearings typically used in many automotive applications tend to be small. They require less technical capability to produce and therefore are among the easiest to copy. And while problems with counterfeits are not unheard of in the OEM market, the big rise in recent years of so-called "backstreet" after-market sales operations have helped the fakes to flourish.

The increasing wave of fake after-market bearings in China has created a major headache for legitimate and respected international bearing makers who say that it's often quite difficult to distinguish the fakes from the real thing. Counterfeiters are becoming real good at reproducing the original markings and packaging—in some instances they're getting almost too good.

How it works

Illegal bearing manufacturers employ devious techniques to fool end-users and OEMs. Some of these include:

- New low-quality bearings are re-labeled with false brand markings and put into imitation packaging that appears identical to the real thing.
- Bearings are remanufactured and then sold with no indication that they have been remanufactured.
- Old bearings are cleaned, polished and supplied without the buyer being informed of how old they are.
- Genuine bearings are removed from their packaging and replaced with look-alike fakes. The originals are then sold new in plastic bags.

Counterfeiters will make unmarked bearings by the thousands in a variety of popular sizes and

then laser etch part numbers in the bearings that look just like OEM part numbers—*sometimes even better*
. While the fake bearings may look exactly like the OEM's in many ways, their service life will be very short. That's because their tolerances, metallurgy, heat-treating and quality is NOT right.

Buyers beware! Premature bearing failures don't just damage equipment and processes, they can cause injury or death.

Bearing manufacturers unite in the fight

World Bearing Association (WBA)…
To raise awareness about counterfeiting, the WBA, formed in 2006, has launched a campaign to spread the word about potential safety hazards arising from counterfeit bearings. Consumers can learn more about the counterfeiting of bearings and what is being done to combat it at www.stopfakebearings.com
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American Bearing Manufacturers Association (ABMA)…
In July 2011, ABMA presented a webinar series on counterfeiting and the impact of counterfeit bearings on the global supply chain as part of the American Gear Manufacturers Association (AGMA). This outreach is part of comprehensive effort by ABMA to ensure the bearing supply chain is aware of the issues and activity around counterfeit bearings, leading to successful partnerships and enhanced enforcement.

The Timken Company…
In a November 2010 news release on behalf of the WBA, Timken noted that in the previous two decades counterfeiting in general had grown by 10,000% globally. "While there has been much reporting about consumers being taken advantage of by counterfeits in music, film, home electronics and designer clothing, a far greater risk lies in industrial counterfeiting of items such as tires, seals and bearings. All these products are safety-critical and fake versions pose a real threat."

NSK Ltd…
A December 2010 press release quoted NSK's president and CEO Norio Otsuka: "Bearings support our daily life, although we cannot see them. If counterfeit bearings find their way into our customers' products, it will not only afflict the product reliability, but it may also damage the safety of our customers' products. In order to keep our commitment to our customers all over

the world to guarantee their safety and security, NSK participates actively in the WBA campaign to stop product counterfeiting."

SKF Group…

To further help customers avoid being duped, SKF offers a six-page tip sheet on how to detect fake bearings. It's entitled "Where are your bearings coming from – Get the facts about the growing problem of counterfeiting."

Let's end this ugly story

Think about it: The making, selling, transporting and distribution of trademarked counterfeit goods is punishable under U.S. law with fines as high as $15 million and up to 20 years imprisonment. Counterfeit parts can cause severe injury and death. They can lead to job loss, legitimate profit loss, tax losses, increased lawsuits and ever-higher product-liability insurance rates. Just as disgusting is the fact that they're frequently produced under dirty, substandard conditions that pose great health and safety risks for the workers—*which can include children*. Proceeds from this type of counterfeiting can often be traced to drugs and arms trafficking, violent crime and smuggling operations.

So, you tell me: Should we be concerned? Without any doubt, YES! As maintenance and reliability professionals, it's our job to help stop the flow of counterfeit parts! Be vigilant. Carefully inspect suspicious components and packaging. Report any unusual findings to your suppliers. And don't be afraid to just say "NO," to anything that you know or sense to be or to involve fake parts, no matter how attractive the price may seem. **MT**

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For more info, enter 02 at www.MT-freeinfo.com

ANSI Speaks To The Counterfeiting Crisis

To read more about those quality and reliability issues ICE Director Morton was referring to, you may want to check in with the American National Standards Institute (www.ANSI.org). The organization has published a free 29-page report: "Best Practices in the Fight against Global Counterfeiting: An Action Guide to Strengthen Cooperation and Collaboration across Industry Sectors and among Global Supply Chains." This comprehensive document is the product of a 2010 ANSI conference and workshops on anti-counterfeiting. It includes insights from industry representatives and professionals from trade organizations and associations, academia, consumer groups, law enforcement and government agencies.

For more info, enter 01 at www.MT-freeinfo.com

References

National Intellectual Property Rights Coordination Center: www.IPRCenter.gov

ANSI: www.ansi.org

World Bearing Association (WBA): www.stopfakebearings.com

American Bearing Manufacturers Association: http://www.americanbearings.org

WBA free Website banners: http://www.stopfakebearings.com/#/banners

Anti-Counterfeiting Training: www.americanbearings.org

SKF: www.skf.com/files/891104.pdf

Timken: www.timken.com *("Launches Awareness Campaign Against Product Counterfeiting")*

NSK: http://www.nsk.com/company/presslounge/news/2010/press101208.html

This article is based on the author's September 2011 "Uptime" column in Maintenance Technology.

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