Written by Jane Alexander with Jack O'Connell, President, International Bearing Supply Company (IBSCO)
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Sometimes, it’s best to view things from the perspective of an expert. That said, you also should expect your suppliers to be experts in their fields.

Providing unfailing operation from ball bearing failure requires looking at the subject the way experts do— *with a cold eye on the factors leading to success and failure*. Ignore them and the result could be production interruptions that cost your company time, money and reputation. Embrace them and you can look forward to a number of benefits, including fast product delivery and fatter profit margins.

When Goodrich Aerospace (GA) of Vermont opened the door to The Five Factors formula, good things rushed in. According to senior buyer Ross Lowery, long lead times for product delivery vanished, even “troublesome” parts were always in stock and the mind-bending exercise of price comparisons for various quantities of parts came to an end. GA thus expanded its contract with the formula originator, Intercontinental Bearing Supply Company (IBSCO). This Houstonbased supplier of ball bearings and services defines and utilizes The Five Factors for its clients as follows:

Factor One: Traceability…

Goodrich Aerospace is a Prime Contractor and OEM for the Federal government. Accurate and complete traceability is requisite, especially for bearings. Thus, if there’s a failure in the field, IBSCO’s ball bearing experts will be able to isolate those failures to a given stock number and then take necessary precautions. If it is shown to be a factory defect, IBSCO can do a recall of the specific bearing and minimize the impact. For example, a ball bearing in a piece of handheld equipment used in brain surgery heated up so much that doctors couldn’t handle the device. Diagnosis: a lubrication overfill from bearings acquired through a distributor. Traceability made it possible to pinpoint each of the bearing lots that went into the surgical tool for that particular customer.

On the other hand, ruling out a bearing malfunction can help lead to the real cause of a problem. For example, a client reported that a ball bearing was corroding fast. When a review of the suspect bearing lots showed no prior history of problems, the client shifted focus and discovered the culprit to be its own process that allowed etching fluid into the bearing housing assembly.

As industry relies more on high technology, these days, such situations are not isolated incidents. A problem in a manufacturer’s process creates a domino effect that can cause long-lasting harm to business relationships. Every part received and delivered by your bearing

supplier should be accompanied with a Manufacturer’s Certification and lot number or traceability identifier. By providing the Manufacturer’s Certification, it makes the distributor 100% accountable for each bearing—from the point of entry to point of delivery. You ought to know what you are getting, whether you’re buying a $2 bearing or a $10 bearing.

Factor Two: Delivery…

Suppliers that “out-think” the customer are a step ahead. By being prepared, they can significantly reduce lead-times for delivery. This is critical given the fact that in today’s economic climate, delivery time can stretch from 30 to 55 weeks. With IBSCO’s help, Goodrich Aerospace has reduced its delivery time to days—or a few weeks at most—by obeying one rule: Managing inventory well is the key to managing delivery time.

IBSCO manages Goodrich Aerospace’s inventory. In doing so, GA’s needs are evaluated on a weekly basis with the help of a complex computer matrix and extensive data about sales cycles. As a result, short-term trend changes can be accommodated, such as those occasions when product is required sooner or later than anticipated.

That type of flexibility helped Goodrich Aerospace pause in its delivery of a braking system. Components needed to move forward on the project were delayed, forcing GA to hold back its own production. The change was accommodated without harm to the outcome. There have been other instances where replacement parts for military aircraft, for example, came in sooner than expected. Again, communication about what’s in the pipeline and safety stock for unique situations provided the solution.

Also, remember delivery is not just related to time. Procurement and Quality Control requirements are a significant issue. The U.S. government enforces the Defense Federal Acquisition Register Schedule (DFARS). This means all government-contract parts must be manufactured, purchased and built with raw materials from the United States market or a North Atlantic Treaty Organization (NATO) country. If DFARS compliance is required, all raw material and product components must be made from U.S. steel that can be traced back to the milling process. This has grown more difficult as the domestic steel industry has eroded, even as demand and manufacturing costs have increased.

Factor Three: Re-lubrication…

The ability to re-lubricate bearings serves a dual purpose. First, it restores the shelf life for product with expired use dates. The ability to re-lubricate expired bearings is essential to the

aircraft and aerospace industry.

But the primary purpose is producing a custom lubricated bearing. This means while product specific to client needs is stocked, the commonly used sizes are onhand and available for lubing as needed.

Also, buying basic ball bearing stock at bargain prices allowed a medical firm to improve gross sales, even as the value of the U.S. dollar dropped. How? The currency imbalance meant overseas customers would eventually want to buy more American-made products because when the dollar value dropped so did the price. By stocking up on basic parts, the medical firm was well prepared when overseas demand for its equipment increased.

Factor Four: Custom Lubrication…

Goodrich Aerospace benefits when its provider buys large quantities of “vanilla” stock on its behalf—stock that later can be custom-lubed to GA specs. When incorporated in this type of purchase, OEMs like Goodrich Aerospace may get a better price than they would get from the factory they normally buy from.

Also, as technologies change, adjustments to lube specs may be required. Sometimes re-lubes are needed because the design specs change due to improvements in technology. Dental tools, for example, pose a particular challenge. They require lubricants that can withstand hot-steam cleansings after each use, yet are not so heavy that they promote heat build-up during operation.

Goodrich Aerospace chose IBSCO because of its expertise in custom lubrication blends, fill amounts and understanding the specific needs of the customer.

Factor Five: Certification…

A factory certification is essential because it includes lot numbers that allow the material to be traced all the way back to the smelting factory. Certification ensures that you’re getting the legitimate part you ordered. You need paperwork to make sure there’s a pedigree.

Lubricants, as well as ball bearings, must be documented. The original factory certification papers must include a lot number and where it was made. Substantial time can be saved if your supplier is factory authorized to do re-lubes. Without this authorization, manufacturers can expect to wait 30 weeks for delivery of a full-warranty product. You need certification detailing what work was done before it was shipped to you. Also, it is essential that the factory scrutinize the processes of the distributor that has been authorized to do full-warranty work—twice a year.

When it comes to ball bearings, those who pay attention to these Five Factors of Excellence should have no trouble rolling along. **MT**

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