Good Purchasing Personnel Are a Priceless Investment

Jack McGuinn, Senior Editor

"A purchasing manager is an employee within a company, business or other organization who is responsible at some level for buying or approving the acquisition of goods and services needed by the company."

— U.S. Dept. of Labor

Seems simple enough doesn't it? It is most decidedly not. Indeed, one can make the case that—aside from uppermost management (or ownership)—no one else in a heavy/high-tech manufacturing concern has more ownership of the company's everyday needs and necessities than the purchasing department.

Yes, unsung heroes have it tough—they are rarely seen *or* heard. And yet they are all around us in everyday life—e.g., fire department, social services, law enforcement—you name it.

So why not add purchasing personnel to the list? Whether it is manager, buyer or agent—purchasing people play an integral role in manufacturing settings like those that receive this magazine. And of course we're talking about those agents involved in the sexy stuff—not pens and paper and sticky notes—but gears, motors, bearings, etc. To do that job well, the purchasing buyer must be adept at—among other things—evaluating suppliers based on price, quality and delivery speed; and interviewing vendors and visiting suppliers' plants and distribution centers to examine and learn about products, services and prices.

Of equal importance, purchasing buyers must: know their way around price proposals, financial reports, and other information to determine reasonable pricing; be able to negotiate contracts; work out binding delivery agreements with suppliers; determine root cause and corrective action of defective or unacceptable vendor goods or services; evaluate and monitor contracts to be sure that vendors and suppliers comply with the terms and conditions of the contract and to determine any need for changes; maintain and review records of items bought, costs, deliveries, product performance, and inventories.

As mentioned, it must be tough. OK—not so much the hero part. But having to deal on a 24/7 basis with deadlines and contracts and prices and delivery dates constantly swirling through one's head.

To find out how tough, we went and asked some purchasing folks. The following comments are from: Bill Cidlik, VP operations and Roxane Durst, master scheduler, Arrow Gear; Douglas Felsenthal, vice president, Kleiss Gears Inc.; Schafer Driveline (SD; did not wish to name a spokesperson); Pat Greathouse, materials manager/tooling, Sunnen; and Barb Watkis, purchasing manager, Zaber Technologies.

Given the skillsets required today to cut it as a competent purchasing buyer, it figures that filling that position — and keeping it filled — is just as difficult as finding a good machinist. Let's see.

"To perform this job successfully, an individual must be able to perform each essential duty satisfactorily," says Bill Cidlik. "The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. Education/Experience: Master's degree (M.A.) or equivalent, or four to ten years related experience and/or training, or equivalent combination of education and experience.

"Arrow Gear has a long history of promoting from within. Many people have used Arrow's tuition assistance programs."

"The individual should possess expertise and knowledge of the supply chain from order placement to shipment," says Sunnen's Pat Greathouse. "A well rounded understanding of manufacturing processes and ERP systems and be able to execute and implement in alignment with corporate goals. We try to emulate the Institute of Supply Management's (ISM) standard practices in conducting business. An individual needs to be knowledgeable regarding this."

As for finding good candidates**, "**It is definitely a challenge," she concedes. "We have a stringent interview process. We try very diligently to make sure the candidate possesses the skill sets that are required, but would also fit with the team dynamics. When we find a candidate that we feel has the foundational skill sets and would be a valuable asset to the team, we take the time to develop and train, if required."

"(Purchasing personnel) should possess expertise and knowledge of the supply chain from order placement to shipment,"

Pat Greathouse, Sunnen

And at Zaber Technologies, Barb Watkis says they look for "A background in numbers (accounting), sales and logistics (as) a good place to start. Knowing the product components is essential in understanding lead times and negotiating on price. Purchasing for Zaber is based on short lead times for our customers while maintaining optimum stock levels in our inventory.

It is a balance of knowing supplier lead times and not keeping too much stock on the shelves.

"Developing good relationships with suppliers and taking advantage of volume pricing is an important part of purchasing at Zaber. Good relationships with suppliers help to ensure that we are notified of delays and allow us to receive emergency goods when needed."

And given the job skills shortage?

"Zaber tries to promote from within," Watkis says. "I started in administration, sales and shipping at Zaber. I already had a background in accounting and purchasing from previous jobs. Having this type of experience and education within a company helps with knowing the company core values. Once you have the core values, you can put the knowledge and learning to use around it. I think for Zaber it would be tough for a purchaser to not have this previous knowledge."

Given their job description, it is not surprising that purchasing buyers are involved at most every level of product development—new and existing.

"We are basically involved once the concept is developed," says Greathouse. "We are involved before the prototypes are developed. We will also bring in our suppliers, as required, to give input on areas that are the suppliers' core strengths and asking what are their 'lessons learned' with the product. We will then take these into consideration in the design.

"The value of doing this has been proven over many projects. We incorporate these cross-disciplines to converge and contribute valuable information as it relates to their area, which ultimately leads to a smooth project launch."

"Purchasing is involved in monthly APQP meetings with engineering to receive updates on new projects that are being developed," says SDL. "There is also involvement in obtaining quotations for sample parts and ordering the same. Once parts are released, purchasing is responsible for issuing tooling, PPAPs (production part approval process), and production part orders."

While at Arrow Gear, "Purchasing personnel are involved from the initial quoting process through the assembly, testing and shipment of the gearboxes," says Cidlik. Durst adds that "As soon as we receive the customer's drawings I start reviewing with our technical quality department-approved sources and specifications. Through the entire process purchasing is involved to ensure that proper certification and quality details are followed to avoid delay upon completion of the unit."

We've all read many articles on lead-time nightmares and the customers who cause them. Just think of the dreams purchasing people must have. After all — *nothing* happens until the needed material comes through the door. And if, like Arrow Gear, your niche is aerospace, we're talking of a need for nerves of steel.

"The constant delivery pressure is a way of life in the aerospace gearbox world," Cidlik allows. "Aerospace PAs must have the drive and desire to achieve the impossible on a regular basis. It's the same for both internal manufacturing and outside purchases. Daily follow up is the only way to keep these projects involving up to 300 part numbers on schedule."

Adds Durst, "Arrow Gear is all about satisfying our customers. We do everything possible to meet our promised delivery schedules. Daily production meetings— with communication between manufacturing and purchasing—help to keep us on schedule. The aerospace processes are long and can have several outside services."

"No doubt there are pressures to deliver product 'yesterday,'" Greathouse agrees. "We rely on relationship building with our suppliers and we continue to have good working relationships. We also share information of forecasting key component parts so we can be flexible in reacting to fluctuations in sales. We also focus on what we determined to be 'key items' so we can react to customer needs quickly and have seen the positive results from this strategy."

Schafer Gear sees the dilemma as a "balancing act between satisfying the customer and respecting the lead times and capacity of our supply chain. The key is to communicate effectively with the customer, supplier, and production team to deliver what you promise on time and at an effective cost. Limit surprises."

"The lowest-price supplier may not be capable to supply the required certifications and documents for aerospace parts."
Roxane Durst, Arrow Gear

"We are very transparent at Zaber with communication," says Watkis. "Customers and production are always up-to-date on the status of a product with the constant follow-up on suppliers by a purchaser. By being so upfront about our product status, it helps for customers to trust us."

And then there are bearings—those crazy spheroids that can drive engineers and maintenance crews crazy. But how do they affect purchasing buyers?

At Arrow, "Since we build our gearboxes to customer drawing and specifications, the bearing details, including the manufacture, are provided. We insist on the bearing manufacturer to certify all material and processes used to manufacture the bearings," says Cidlik. Durst adds that "A specific brand with manufacturing date is required on the customer drawings."

"We rely on our engineering group to determine the bearing suitability when sourcing," says Greathouse. "If an alternate is required, we initially determine that form, fit, and function are exact. The load ratings and how the load ratings were determined are reviewed by our engineering group be-

fore any alternate bearing is approved. We spend countless hours testing the bearings to ensure their performance when a bearing is installed in the assembly. We are confident the bearing is going to perform as expected."

We then put to the group what they considered to be the most complex issue facing buyers today. To a degree it depends upon what is being manufactured.

For instance, at aerospace-intensive Arrow Gear, "Adhering to all customer, military, and in-house specifications, and coordinating the shop production schedules and the outside purchased items to arrive when needed to assemble the gearbox," says Cidlik. For colleague Durst, "A big challenge is keeping on top of all the different customer quality specifications and paperwork requirements to avoid delays at the end. I work closely with our quality department, making sure every "i" is dotted and "t" is crossed at each operation."

Greathouse believes it is "Determining the scope of what is required (for) compliance with various regulations initiated by the government/European Communities."

Zaber's Watkis says it is "Communication with overseas suppliers. It can be hard to get a confirmation from some suppliers based on time zone, different culture practices, and payment options."

And for an example of an everyday purchasing problem that *never* goes away: "Pricing is the most challenging part of the job" says Arrow's Cidlik. "These gearboxes are very competitive, so being the lowest cost producer is what it takes to get business." And beyond price, Durst explains, "The lowest-price supplier may not be capable to supply the required certifications and documents for aerospace parts."

Conversely, perhaps the most satisfying part of the job is working with the various departments throughout the company in bringing product—especially new —to manufacture and seeing it roll out the door—on time and within budget.

But how does that work? Here again, it depends.

As Sunnen's Greathouse points out, "As mentioned, we involve our suppliers early on so they are very much part of the process. When a component fails, the supplier is made aware immediately so their engineering team can work with our engineering team to determine the root cause of the failure and ultimately the corrective action is determined. It is definitely a team effort—both internally and externally."

For Schafer Driveline, "New products typically begin development in our engineering department. Purchasing receives various requests from engineering during development to obtain quotes and purchase samples for sample drawings that are produced. There can be some work with engineers as quotes are returned to modify design to reduce cost or improve the ability to manufacture.

"If a chosen material fails sample testing, typically the engineering department works with our on-site metallurgist to determine root cause and corrective action to adjust the design. Once production drawings are released, we would finish sourcing by obtaining updated quotes and issuing purchase orders for PPAP and production parts."

"Aerospace purchasing works directly with the sales department and also the engineering department from the quotation, order entry and manufacturing process," says Cidlik. "Once the complete bill of materials (BOM) is created, the purchasing job is critical to the success of the gearbox project. Some long lead time items must be ordered immediately—even before the BOM is completed." As for Durst, and considering we're talking aerospace parts, this is pretty impressive—"I work closely with our gear design engineers, ensuring the approved sources understand the required drawing specifications."

And what of supply chain issues? The best capitalized, equipped and staffed company in the world goes nowhere without the *uninterrupted* flow of raw materials needed to manufacture product. Yes, uninterrupted is the key—or perhaps better said, steady supply with *no surprises*. It is the surprise factor that will incur unplanned downtime and cash losses; schedulers can plan for scheduled interruptions. But a crackerjack purchasing buyer somehow manages to stay on top of the supply chain dynamic and avoid unexpected catastrophes.

"Purchasing personnel are involved from the initial quoting process through the assembly, testing and shipment of the gearboxes."
Bill Cidlik, Arrow Gear

For instance, at Sunnen, "The buyers monitor the indices that are most affecting the commodities they are responsible for," says Greathouse. "The purchasing area is active in the local ISM affiliate for continuing education. The *Purchasing Managers' Index and Report on Business* are valuable tools we monitor monthly.

"ISM is a great resource to educate and keep the pulse of what your peers are seeing in the everyday business life unfiltered. We also are in contact with our suppliers to verify if what we are seeing in the indices and PMI (Project Management Institute) are translating to what we see in our spend analysis. Planning and purchasing areas actively coordinate very closely our requirements. "The planning area is active in the local APICS (American Production & Inventory Control Society) affiliate. Sunnen sponsors educational and certification classes from both organizations to ensure our folks are trained and able to execute the latest processes and trends to optimize spend and minimize inventory. And ensuring the inventory we are carrying is the correct inventory for what we are building and servicing customers." **PTE**

The Purchasing Buyer: An Agent for Relationship-Building

Here's a Q&A take on what's expected of a purchasing buyer from a customer perspective. The "customer" in this case is Kleiss Gears, represented by Douglas Felsenthal, company vice president.

Jack McGuinn, Senior Editor

Q: With the ongoing advancement of high-tech manufacturing, what background does a manufacturing company such as Kleiss Gears demand in a top-level purchasing agent today?

A: *Ours is much a systems level world. For top-notch product results, it is not about individual components. It is about interaction of each component to the whole device or product. Therefore, we need a PA with technical engineering skills to understand how and why this is so and then be able to communicate that to his own organization. We need a partner in the customer company. I would look to interface with an industrial or manufacturing engineer background to do a proper job in this area. Along with this, someone who is grounded in finance and how the whole customer company works.*

Q: Perhaps the culture differs from company to company, but to what extent are purchasing personnel involved in new projects at Kleiss Gears? Just on a "need-to-know" basis or are they in for the whole ride—from print to production?

A: *In our customer companies I see the PA as the bridge between the dream of design and the realities of what can be produced. They are integral to the whole team in bringing back the technical aspects of component manufacturer to the OEM operation. Without this function, the engineering organization will produce devices that are overly expensive or cannot be produced at all. There are three areas of procurement—off-the-shelf, custom, and new R & D required. The PA needs to know which and has a very key role.*

Q: With, in recent years, the constant pressure from customers — We need it yesterday! — how does that affect how PAs do their jobs? Even for internal customers, when you have to tell the salesman, the sales manager and the production manager that you will not be able to bring in the needed say, material, as soon as they would like?

A: *This is probably the biggest money waster in the business. I could tell you stories. But at the beginning of a new program, money is of no importance to meet a timeline. But in reality, at the end, time wins as no value and we look back and see money just wasted on things that just don't have to be done. In a generic sense, I have several examples of customers who threw 2X at projects to get done in unrealistic speeds, just to have those projects languish at the end over all kinds of internal development issues. One example—a customer who had to have his gear tooling done in five weeks and production lines up in 16. Production hasn't been realized in 6 years. There were tremendous amounts of waste here. It's happened more than once; so much in fact that when projects come along with these unrealistic requests, I just have to laugh.*
The PAs have to stop being demanding. Think relationships; this is the long-term goal. Too many PAs just become "bad" people. The PA has to go back to his organization and thoroughly understand what is driving the push, how has it gotten out of control, and guide everyone into knowledgeable decision-making. I would suspect that the misconnection started at some senior management level that did not have the proper scope or understanding. The PA could be the conduit here. This is where PAs can form a vital relationship and technical link between organizations by communicating real needs to both parties. Then evaluating the reality and plans for these needs match up.

Q: What is the single-most complex challenge facing PAs today?

A: *What I see is becoming recognized in their organizations for the importance of their contribution to a new program. They are playing a true engineering role in every sense of the word. Being high enough and recognized as such in the organization as a key part of the engineering team. They are not number and chart pushers anymore; they are so much more.*

Q: Please describe the role of the PA in a new-product development scenario. Describe in terms of degree of role in process (at what point involved, for how long, etc.); any work with engineers; does PA have final say on supplier; if chosen material fails, how, typically, is root cause and corrective action investigated, etc.

A: *I've mentioned before that the PA needs an engineering background, (because) he has to be involved in the product from the inception. The PA is the link between development and what can be really produced in a reasonable way. The PA needs to be involved throughout the development till it's in automatic manufacturing mode. Then the role focus can change. The PA needs to be the interface between what the engineers develop/need, and what can be produced on the outside. He is the rudder of the development, recognizing when requirements are outstripping manufacturing's capability and/or communicating to the team that new processes and technologies need to be brought online for the individual product. The PA also has to know materials and methods thoroughly so as to head off potential failures and/or communicate the risks to the team.*

Q: How do purchasing agents ensure that even commodity, off-the-shelf hardware is within Kleiss Gears specification?

A: *PAs should be involving the quality departments of both their companies and Kleiss Gears. We find that when there is a close relationship for how materials are to meet specification, the process runs very smoothly. The PA needs to bring together members of both teams, discuss the requirements, and the over watch as the teams decide how incoming inspection will work. This is in both equipment and technique. The equipment and technique on both sides needs to be identical and also correlated for smooth success. This is a function which is easily overlooked until there is a relationship breakdown and progress is at a dead stall. The PA is the coordinator to make sure that this (does not) happen.*