Inventory management

Solving Supply Chain Hassles: Seven Ways to Avoid Stockouts

Kip Hanson | Dec 20, 2022

With factory shutdowns, worker shortages, an ongoing trade war and unpredictable demand, the past few years have revealed troublesome vulnerabilities in manufacturing supply chains.

Fortunately, machine shops both large and small can take a variety of steps to lower the risk that disruptions linked to those weaknesses will lead to stockouts. Here are seven, starting with the heart of any manufacturing business, its software system.

Look in the Mirror

Sometimes, finding the root of supply chain problems begins with looking in the company mirror. Inaccurate forecasting, supplier mismanagement, cycle count errors—these and other all-too-common business mistakes add fuel to the supply chain fire. Fortunately, a well-implemented enterprise resource planning (ERP) system helps to solve such problems.

ERP brings discipline to the shop floor, makes inventory levels and forecasting more accurate and provides the visibility needed to make sound business decisions in a timely manner. If your shop is among the minority of those without an ERP system, this is a good time to literally get with the program.

Make Your MRP Magnificent

Already have an ERP system? That's good, but now ask whether it provides the desired results. Is it up to date, or was it installed before Y2K? Keeping current on the shop's software is every bit as important as replacing outdated, inefficient equipment and machine tools.

Whatever its age or capabilities, it's critical for your material requirements planning (MRP) to have accurate data to support its functions. Do you perform cycle counts? Are your safety stock levels set properly? How about product lead times, preferred suppliers, lot sizes, and all the other planning variables that determine whether supplies arrive at the right time and in sufficient quantities?

Then ask yourself if the bills of materials (BOMs) are correct. Are the manufacturing times accurate, and do employees clock in and out of jobs religiously? If not, the GIGO rule—garbage in, garbage out—will undermine even the best software system. That's because ERP and its little brother MRP are not "set it and forget it" affairs. They require regular maintenance and attention to detail if they're to A) reduce or eliminate supply chain difficulties and B) provide maximum return on investment.

Vendor Managed Inventory

Too busy for cycle counts? Don't want to tie up working capital in safety stocks, or worry about your system's planning data? Maybe it's time to hand the responsibility over to someone else. ***Vendor Managed Inventory*** (VMI) is a great way to eliminate these hassles.

As its name implies, VMI options such as MSC's ***ControlPoint solutions*** place inventory management burdens on a strategic partner tasked with keeping the shelves stocked. VMI prevents obsolescence, reduces procurement costs, and frees employees to work on more value-added activities.

Success requires the right vendor, however. VMI should be a collaborative effort between the customer and the supplier. There must be complete transparency regarding product costs and handling fees, with easy access to reports, training and mobile apps for the greatest ease-of-use. The vendor should also be open to long-term agreements (LTAs) that help eliminate stockouts and keep costs low.

Establish a Tool Crib

Vendor Managed Inventory can include everything from nuts, bolts and other hardware items to the sheet steel or plastic pellets needed to build your products. For a machine shop or fabricator, though, perhaps the first place to implement VMI is in the tool crib. Here, vending machines and smart tool cabinets like those offered by ***ControlPoint*** can be used to control access to cutting tools and tooling, safety supplies, abrasive disks and wheels, and everything else that's needed to keep machine tools running and employees productive.

Gone are the days when a worker takes the last drill bit or insert without notifying someone, thus shutting down an expensive piece of machinery over a low-cost supply item. With a well-run tool crib, hoarding is eliminated, as is theft, while tooling costs are precisely allocated to the job or project that consumed them. And because everything is in its place, factory floor workers don't waste time looking for things. The result is greater uptime and more profitable manufacturing.

And even though it has nothing to do with supply chains, a robust tool crib strategy supports other productivity-boosting functions such as offline tool presetting and toolholder assembly balancing, not to mention RFID (radio-frequency identification) tagging of toolholders. With all of this comes the possibility of implementing tool management software (TMS), which is readily integrated with CAM and toolpath simulation systems, not to mention the shop's ERP platform.

Just Say No

Your best customer just called and wants to work in a large order. Great news, right? Not necessarily. What if the raw materials, tooling and supplies needed to fulfill that order were purchased for a different job? Nobody wants to say no to a customer, but rush orders should be treated carefully.

Here's where a well-managed MRP and scheduling system is worth its weight in gold. Sales and customer service representatives have complete visibility into potential shortages or resource conflicts before accepting the order, and if necessary, can charge the customer for overtime and expediting or

even push back on the requested delivery date.

Get Lean

How do lean manufacturing principles eliminate stockouts? They don't, at least not directly, but following them helps to reduce waste and make everything on the shop floor more efficient.

A lean manufacturing facility is one without surprises. Implementing better housekeeping practices such as 5S (sort, straighten, shine, standardize and sustain) reinforces other stockout-avoidance measures. There's no overproduction, defects can be eliminated and schedules are more likely to be followed.

Get with the Team

Each of these strategies has one unavoidable side effect: change. And change, for most people, is difficult. That's why the first step in any continuous improvement initiative—supply chain-related or otherwise—should be to get everyone involved. Tell employees why change is necessary. Eliminate fear. Ask for their advice. Make them part of the problem-solving team, rather than allowing them to be part of the problem.

The same can be said for your company's suppliers. Develop strong relationships with each of them, but at the same time, make certain that they are well-organized and efficient. Your primary steel provider—or any other critical link in the supply chain—should be able to clearly delineate its contingency plans for an equipment breakdown, employee problems, shipping delay or similarly unpleasant event.

And while you're busy asking those important questions, be prepared to answer them yourself when your customers ask for the same information.