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## *Meeting the* **SERVICE PARTS INVENTORY** *planning challenge*

Have the right part in stock at the right time in the right place



By **Charles N. Smart**

The challenge for fleet operator parts organizations has always been to have the right part in stock at the right time and at the right place. The consequences of failure to do this are expensive and involve service delays, lost revenue, increased expediting costs and more.

For many bus companies parts inventories represent a major asset on their balance sheets. They are also an ideal place to cut costs and improve cash flow. This is due in part to the unusual nature of parts inventories, of which 20 percent or more may comprise obsolete or overstocked items. Also, unplanned part replacements are difficult if not impossible to forecast. Balancing parts inventories can remedy parts shortages of critical items that can negatively impact service with unnecessary vehicle downtime. As a solution bus companies are increas-

ingly asking their suppliers to take the inventory risk and to guarantee parts availability.

### **Key challenges**

It is very difficult for the parts organizations that service bus fleets to do inventory planning. In today's economic environment they are being asked to do more with less. In part this is due to downsizing and staffs that do not have the forecasting expertise or the analytical skills to manage their large and complex inventories.

As much as 70 percent of the parts in a bus fleet's inventory exhibit intermittent or slow-moving demand. Most organizations do not bother to forecast these parts shortages or needs. They may eyeball the inventory and make a best guess about how much safety stock to carry. It is no wonder that many parts are overstocked, which

increases costs, while others are under-stocked. Both can impact service.

Suppliers of critical parts to fleet operators, including Motor Coach Industries (MCI) and Prevost Parts (a division of Volvo Bus Canada), experience the same forecasting challenge. To meet the challenge organizations that maintain fleets of buses, or supply those that do, are turning to specialized software solutions. This software effectively forecasts all of an organization's parts requirements, enabling it to balance its inventories, accurately set safety stock levels, and basically do more with less.

## Montreal transit's experience

One company that has used specialized software with dramatic results is Montreal Transit Corporation (MTC). Here's how they did it.

In 2008 Montreal Transit Corporation, with a fleet of over 1,700 buses and 749 metro-cars, was looking for a way to improve its inventory management and reduce its costs. MTC stocked more than 200,000 parts, much of it with intermittent demand, valued at \$33.6 million. About \$10 million worth of parts were inactive. MTC had no proper way to differentiate between insurance, inactive, and obsolete parts, or to properly identify overstocks. Most of the time safety stock, reorder points and reorder lot sizes were determined by best guess. Consequently, overall parts availability was only 76 percent.

With management support and the help of specialized best-in-class forecasting and inventory optimization software, MTC's supply chain organization launched an initiative designed to reduce its costs and improve its service levels. Materials management wanted a system that would enable it to accurately forecast all of its parts, replenish items where stocking levels were insufficient, and dispose of excess, inactive and obsolete parts. After a lot of work cleaning up its data and re-engineering its processes, MTC was able to use the software solution to forecast all of its 200,000 parts on a regular basis, improve parts availability from 76 percent to 94 percent, reduce its inventories by 12 percent or \$4.1 million and reduce its inactive parts 24 percent to \$7.8 million.

## Key lessons learned

Reginald Soubry, a senior analyst for MTC's materials management and logistics operation, explains the critical enablers for the company's success as follows:

- Management's vision and support implementing the stock management improvement initiative.
- Planning staff's knowledge and understanding of the basic classical calculations and the influence of stock parameters on them.
- Specialized software solutions to forecast lead-time demand and safety stock requirements for both regular and intermittent demand items, as well as a way to recalculate stock parameters.

- A stock management system with the ability to modify reorder point (ROP) processes to take better account of economic lot sizes, minimum stocks and maximum stocks.

According to Soubry, here are a few things you can do in your own organization to increase your chances for success:

- Set clear objectives and priorities.
- Plan the work in stages and make sure you have measurable and reasonable targets, as well as a way to measure how close you are to the bulls-eye at each step. Have a backup plan.
- Clearly define everyone's role and get buy-in at all levels: upper management, middle managers, parts personnel and suppliers.
- Make sure you have the bodies on the floor to do the work properly and that they are informed and trained and can manage the change.
- Get involvement and teamwork at all levels and all stages of the project.
- Plan the work, work the plan, and have the right tool set.

MTC's success was not instantaneous. Like the experience of other transit companies, significant efficiencies occur in stages over several years. In stage one much can be achieved through a variety of non-technology process improvements. Stages two and three identify the value derived through successful implementation of demand forecasting and inventory optimization solutions. Near immediate cash benefits occur through postponement of purchases and rescheduling of deliveries. Longer term, substantially greater benefits accrue as excess inventories are consumed and the organization shifts to a new, "right-sized" inventory equilibrium.

## Conclusion

The experience of Montreal Transit, and suppliers like Prevost and MCI have demonstrated that millions of dollars in savings and double-digit service level percentage improvements are possible with the right enablers and, in particular, the implementation of the right technology solution. Significant returns can occur within a matter of months – certainly within the first year – enough to satisfy corporate ROI benchmarks. However, the most significant savings will occur over time as processes are fine tuned and new technologies are utilized effectively. **BRM**

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