

Improve Storage Productivity

By Ron Giuntini

Operators are continually attempting to improve the lifecycle productivity of their equipment: few organizations actually calculate equipment productivity. It is most often an intuitive reaction to constantly adjusting outputs and inputs, which ultimately drives not only equipment productivity, but enterprise productivity and profitability as well.

Most organizations focus on improving the productivity of specific processes that impact equipment productivity, and if they make more right decisions than wrong decisions in managing those processes, they ultimately favorably affect equipment productivity.

The focus of this article is to discuss one of the more under-appreciated processes affecting equipment productivity: the storage of service parts. Equipment operators often make a substantial investment in the service parts used in maintaining the reliability and availability of their equipment. They recognize that the on-site storage of service parts impacts their equipment's capacity utilization through the reduction of cycle-time duration for both planned outages/preventive maintenance and emergency work for corrective maintenance.

The ability to meet customer delivery dates is also affected. Operators recognize that on-site service parts storage also benefits them in reducing inputs, such as maintainer manhours awaiting parts from suppliers, in-bound freight costs for expedited parts orders and others. If an operator can improve the productivity of service parts storage without reducing equipment reliability and availability, then the operator "wins" by improving equipment productivity.

Most companies have historically invested an estimated 0.75 to 1.5 percent of the Current Replacement Value (CRV) of their equipment in service parts; a company with \$4 million of equipment at CRV would typically invest \$30,000 to \$60,000 in service parts. Annual costs related to the management of storing service parts have typically been 25 to 35 percent of the value of the parts. In our example an organization would annually spend \$7,500 to \$21,000.

What is more material, and to which a dollar figure cannot be attached, is that customer satisfaction, through missed delivery dates, can nose dive if on-site service parts are in short supply.

Parts Investment Challenges

Challenge No.1: Service parts investment continues to grow. The equipment maintainers are mitigating their risk of long unplanned maintenance durations due to parts shortages by “piling-on” parts.

Solution: Establish Vendor Managed Inventory (VMI) contracts with key suppliers.

This is an agreement in which your suppliers position their assets at your site, but you only pay for them when they are issued, or within a stated calendar period. More and more suppliers offer this feature. Consumables are often the first candidate for such a program, but the dollars are to be found in major components.

Challenge No. 2: Service parts investment levels are difficult to budget because demand is not easy to predict.

Solution: Establish Product-Services contracts with OEMs.

This contract ensures a fixed price per output of the driver (tons processed by equipment, calendar age of equipment, pieces processed by equipment, etc.) of service parts use. This program works by having service parts on the site of the operator, but owned by the supplier and the operator’s payment to its supplier is made on a periodic basis based on the output of the driver. For example if the agreed upon driver of the demand for service parts is linear-feet-processed and the fixed price for service parts is \$.03 per linear foot, and your company processes 100,000 feet during a four-week period, you pay \$3,000 for the issue of service parts for that period, regardless if the actual issued quantity from the supplier’s consignment stock was \$5,000 or \$500. This type of contract aligns your enterprise output with your cash outflow for service parts and provides a fixed productivity performance for the organization.

These types of contracts are relatively new, but are being demanded by operators more and more.

Challenge No. 3: Operators are often “stuck” with items that are no longer required. This can be driven by the equipment being: no longer in the operator’s installed base due to its sale, retired and cannibalized for parts, or planned to be run until failure and then disposed of, thus requiring no further maintenance.

Solution: Establish buyback with suppliers for obsolete and excess parts.

Many suppliers have once-a-year buybacks based on a percentage of annual purchases. For example, a supplier will buyback up to 10 percent of the value purchased in the preceding year for a 100 percent credit against future purchases occurring in a six-month period. Also when purchasing new equipment from a supplier, this is often the time to negotiate the trade-in of obsolete/surplus parts.

Challenge No. 4: Many shelf-life consumable parts get “junked” because they are expired. Expired consumables also fail as part of an “old” component that has been recently installed, resulting in an additional repair cost for the component.

What drives this to happen is that items get constantly pushed to the back of storage bins because it is physically easier for the person to put newly received items away.

Solution: Establish FIFO parts control system for shelf-life limited items.

Some CMMS (Computerized Maintenance Management System) software has FIFO control and can be used to avoid item expiration. If that isn't available, a simple card system for critical shelf life limited items can be developed. Critical can be defined as item value and/or its impact upon equipment reliability.

Challenge No. 5: Service parts new condition price increases are growing at a faster rate than inflation, thus increasing investment.

Solution: Acquire not-new condition parts.

Many times not-new-condition parts are sold by the same suppliers of new ones, with similar warranties, and with prices that are 50 to 70 percent of new condition. This is most prevalent for components that can be remanufactured/overhauled/rebuilt.

Tax challenge

Taxes continue to erode your cashflow.

Solution: Categorize components as fixed assets.

The American Institute of Certified Public Accountants (AICPA) states that long-lived components must be classified on a GAAP (Generally Accepted Accounting Principles) balance sheet as fixed assets, with a depreciation schedule; this also applies for tax purposes as well. Depreciation reduces company income, thus lowers federal, state and local taxes. For those companies that are located in states that have asset taxes, this lowers your balance sheet value and thus your state/local taxes as well.

Facility challenge

Many parts are for insurance purposes; they may never be required, but when they are in demand, because of their often long lead times, not having the part could result in a major disruption in a business.

Solution: Locate slow-moving insurance parts to a lower-cost storage area.

This storage strategy is even more important if service parts storage space is competing with that of production. Find a warehousing facility within 30-60 minutes from your location and transfer the insurance parts; if you're renting, square footage prices can often be materially lower than that which is paid for production space. Also note that energy costs can be reduced. You can also dense-pack these parts to even further reduce square footage requirements.

Labor challenge

Maintainers, or stock room labor, often spend a lot of time searching for parts in the stock room because of poor enterprise discipline in the recording of receipts, transfers and issues.

Solution: Implement a robust parts record control program.

By creating a cycle count program, a periodic auditing of physical items versus item records, higher paid maintainers can reduce their "stand around" time waiting for parts to be found.

Insurance challenge

Loss insurance rates continue to rise, based on higher service parts investment.

Solution: Reduce investment.

As previous discussed, there are several ways to reduce investment. Upon taking such actions, always remember to evaluate its impact on insurance fees.

As enterprises strive to remain competitive, they must find more and more creative ways to be more productive. An enterprise implementing any of the initiatives discussed here will be on its way to improving the productivity of its service parts storage management — and its overall enterprise profitability