

The Key To Curing Your MRO Department's Ills Could Be In Storage

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Maintenance and Repair Operations (MRO) are central to just about every type of manufacturing facility – with responsibilities that usually encompass both facilities maintenance, and machine repair and maintenance. An organized, smooth-running MRO department can keep your entire company operating efficiently, while an MRO department that is disorganized, inefficient and ineffective can have negative ramifications that touch just about every aspect of your business – from overall productivity to employee safety to the bottom line.

Disorganization means employees can't find the items they need when they need them. It is also a direct link to inaccurate inventories, unscheduled downtime, unexpected stock-outs, overcrowded or inefficient use of space, and malfunctioning or non-functioning machinery.

If disorganization is the disease from which an MRO department is suffering, an improved storage system is a likely cure. The benefits of implementing an advanced hardware and software storage system are many, and can include:

- Greatly reduced downtime (with predictive and preventative maintenance)
- A more efficient and productive workforce
- Improved operator safety (with machines and equipment functioning properly)

- Fewer product defects
- Lower inventory costs (greater visibility eliminates repetitive and/or blanket work orders; increased organization allows for the stocking of min/max quantities with reorder points)
- Faster and easier inventory process
- Faster parts picking, and improved ergonomic access to more items with less operator movement and strain
- Improved use of valuable floor space
- A more aesthetically pleasing environment and more professional image

Take stock of your options.

In general, there are three types of storage systems that an MRO facilities manager can consider:

conventional, automated and high density.

Conventional storage.

Conventional storage, with principle components that include shelving, racks, bins, or some variation of these elements, is most appropriate for large bulky items and

items that are slower moving. Large quantities of products that don't require daily access and/or are



stored and distributed in bulk are examples of items well suited for conventional storage. Pallet racks are used for items that are delivered on pallets or are very heavy and need to be moved by a forklift truck.

Automated storage and retrieval systems.

This category includes horizontal and vertical carousel and lift systems, and control software. These systems store a lot of items in a relatively small footprint, particularly the vertical systems. Vertical systems also offer exceptional security access, and so are well suited for the storage of valuable and/or limited access items. But vertical systems are expensive upfront and can have a high maintenance price tag. These are machines with moving parts, and carousels require a precisely balanced weight flow, so by their very nature they have a potential to break down. They can slow down stocking and retrieval, as they also only allow access and picking by one operator at a time.

High-density storage.

This is the ideal solution for storing medium- to small-sized items. In my 25+ years in the storage industry, I have found modular, high-density storage to be unmatched in terms of efficient organization and value. In this category we are talking about modular drawer storage cabinets, mobile cabinets, and other systems that feature sub-dividable drawers as their centerpiece. High-density storage, which I will discuss in greater detail shortly, is a perfect cure for an MRO department's disorganization, and offers abundant benefits that conventional storage simply can't – from complete use of cubic space to load capacity. High-density storage is also more affordable than automated systems. In short, it is the most effective and cost-effective option.



Storage configuration options.

Both high-density and conventional storage can be stacked or used in mezzanines to take advantage of a room's full height while making maximum use of floor space. This can be a relatively inexpensive alternative to building an additional floor. Both can also be mounted onto a mobile aisle system, which is comprised of rolling rows of storage product with only one aisle accessible at any time. These space saving systems eliminate wasted aisle space, but are not the best solutions for fast-moving inventory.

Mobile modular drawer storage cabinets deliver all the flexibility and completely organized storage of high-density cabinets, while adding the benefit of complete convenience. With these mobile units, tools and parts can be rolled out directly to the job



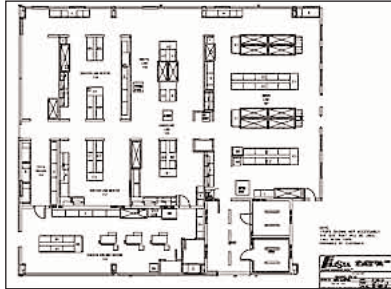
where they can be readily accessible to maintenance and repair personnel. These mobile workstations-on-wheels can be customized with the particular tool sets used by each craft. Repairs are performed more quickly and downtime is greatly reduced.

All of these systems, from conventional shelving to the most advanced high-density system, are most effective when combined with some sort of integrated software system. Today's software does an exceptional job of managing inventory levels and determining key performance indicators; both that can help prevent future breakdowns and also aid in predicting future needs.

Get it right from the start.

It is important to set up a storage system correctly at the outset. Even the most sophisticated software and inventory systems are based on the principle of knowing where an item can be found, and returned.

Space planning is an essential first step, whether coordinated by your own staff or with the assistance of storage consultants or the manufacturers themselves. Taking advantage of free design planning surveys by the manufacturer or its representatives can be a real cost-saver.



Preventive and predictive maintenance.

Preventative maintenance and predictive maintenance are essential for the efficient running of an MRO department. Both rely heavily on organized storage. The main objective of preventative maintenance is to monitor things before they break. Preventative maintenance is either calendar-based, on a regular time schedule, or position-based, according to the actual position of your equipment.

The goal of predictive maintenance is to anticipate failures before they happen. It incorporates various tests, such as vibration analysis and thermographic scanning of potential wear points, to predict likely failures. Maintenance is then performed accordingly.

Both of these maintenance procedures rely on precise timing and immediate parts access. This is where advanced storage solutions, and specifically high-density storage, can be so important.

The power of the drawer.

As I mentioned earlier, the best high-density storage solutions are modular in design, letting you select components that exactly suit your needs. For example, these can include cabinets of varied heights and widths which offer many different drawer height combinations. The



modularity of these systems not only allows for custom-fitted storage, its interchangeable parts provide flexibility for future change and growth.

Modular high-density storage systems come in a huge range of sizes and shapes. You can also choose large wall units, which combine drawers, shelves and even rollout trays for storage of, and easy access to, heavyweight items. These units let you store large, medium and small items together; you can store according to need and craft vs. storing merely by size. Such systems allow items in daily use (product broken down from bulk quantities to smaller manageable quantities) to be mixed with bulk and slow moving product for convenient access to both.

Another option is drawer storage units, which can be added into conventional shelving, providing a cost-effective way to improve your existing storage without entirely replacing it.

The heart of high-density storage is the drawer, and not all drawers are made alike. The best high-density drawers make the most use of full cubic capacity while providing easy, direct access to all your tools, parts and other stored items. These drawers should be able to handle a lot of weight – some feature 440 lb. load capacity. And even with this load, they should be 100% full extension, allowing every inch of space to be used and easily accessed.

Look for drawers that have full-height sidewalls and backs, so that height as well as width and depth are available for storage.

Giving each part a “home” is essential for enabling MRO departments to function efficiently. Drawers that are easily sub-dividable into compartments allow such separation of individual parts. The most preferable drawer



dividers allow easy identification of compartment contents, including bar code labeling.

Most MRO stockrooms are broken down into multiple crafts. Technicians that specialize in different crafts, whether they be machine maintenance or plumbing or electric repair, need storage that can be organized according to their typical tasks.

Compartmentalized storage is so important when you're dealing with such a great variety of items, and is essential to fast access and efficient service.

To clearly understand the advantages of high-density storage, compare it to the conventional shelving alternative.

High-density drawer storage uses all available cubic space and frees up floor space; conventional shelving, on the other hand, can waste as much as 80% of that cubic space while consuming floor space. And all space is at a premium in most companies.

Full-extension drawers, an important component of a high-density storage system, provide complete easy access. Upper levels and the rear of conventional shelves are hard to see and reach, and often wind up unused. Items on shelves are often stacked, difficult to retrieve, and easy to lose.

Inventory control is easy in compartmentalized storage because there is clear visibility. Shelving provides no efficient parts location system.

Organization is key to meeting your mission.

The primary mission of MRO personnel is to maintain and repair equipment in order to keep that equipment and the company operational. MRO fills an essential role. And the organization of tools and



parts is essential to an MRO department's success. To minimize downtime, and maximize productivity, consider the high-density storage options that promote the highest degree of organization. When your MRO department is in need of a little "preventative maintenance," the right storage solution could be just the medicine you need.

About the author

John Alfieri, Vice President, Sales and Marketing, at Lista International Corporation, Holliston, MA, has been in the storage industry for over 25 years. He spent over ten years in field sales, assessing customer needs and solving sticky storage problems.



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