

AMH SPECIAL REPORT

Publisher's Note:

This Special Report is created, published and distributed by AMH, Incorporated. AMH provides professional assistance with planning and implementing cost-effective manufacturing and storage facilities. Services include site survey and analysis, budget planning, equipment recommendations, turnkey installation, service and maintenance.

Valued partners include industrial giants such as North American Ford, Dana Corporation, Shiloh Manufacturing, General Motors, Square D Group, Schnieder, Lexmark and Proctor & Gamble, as well as progressive, smaller companies throughout Kentucky, Tennessee, Indiana and Ohio.

Published by **AMH, Incorporated** | 2285 Executive Drive | Lexington, Kentucky 40505
Toll-Free Telephone: 1-800-838-0473

Got Wasteful MRO Storerooms? Follow this Extreme Makeover Plan.

By Tom Jameson, President

AMH, Inc.

Based on my numerous visits to industrial storerooms, I'd venture to say at least 70%-80% are infected with wasteful practices and storage policies. And when all the waste in a typical Maintenance, Repair and Operations (MRO) storeroom comes to light, it's not unusual for the storeroom's manager to be stunned at what he learns.

But, that's not to say that most MRO storeroom managers would be totally SURPRISED to learn their operations were not as efficient and profitable as they should be. In fact, a recent survey of storeroom managers by Grainger Industrial Supply produced these findings:

- 73% of storeroom managers believe they have too much inventory
- 87% suspect there are substantial cost-savings opportunities they have not tapped
- 71% admit inventory management in their storeroom operation could likely be improved

How to think about your storeroom makeover

Unlike the celebrity team featured on the Extreme Home Makeover television series, you can't just bulldoze your storeroom and start over. Your storeroom may have been put in place when the plant was built, including the original shelving and old pallet racks. You may also be shackled by out-of-date storage facilities and material handling equipment.

Your first step: Conduct a gap analysis assessment, which provides a snapshot of the current state of stores operation, and identifies barriers and behaviors creating inefficient results. Often, as you analyze data from your assessment, you'll find that many barriers and behaviors identified as problems are actually workaround solutions floor level employees have developed to compensate for undocumented or poorly designed work processes and undocumented changes to operating equipment.

When basic business processes for storeroom operation are not followed, other areas of management begin to be ignored. Within a remarkably short time, a storeroom can accumulate materials stacked in the aisles. . . develop safety hazards created by improper storage practices. . . and create inventory in excess of the maximum stocking level.

As part of your gap assessment, implementing a series of storeroom Kaizen projects based on the 5S visual management system is a good starting point. Assessing your storeroom to identify what needs to stay and what needs to go will increase employee safety awareness. . . and provide the shelf space needed to reorganize inventory.

Figure 1 Before and After photos show a Kaizen project that eliminated several safety hazards, increased storage efficiency through a small investment in new pallet racks and allowed more time for storeroom employees to relocate inventory in more effective commodity groupings.

Figure 1



Understanding the Value of Commodity Grouping

The storeroom practice of grouping inventory items by equipment asset was common before warehouse management software was available to track inventory electronically. Unfortunately, equipment asset methodology is still a common way of organizing inventory in many MRO storerooms.

The problem with equipment asset grouping of spare parts is that it leads to duplicate inventory. If a bearing has several applications throughout the site, asset grouping requires the bearing to be stocked in each equipment asset location.

This allows storeroom and maintenance employees to narrow their search to a specific area of the warehouse when they are searching for spare parts.

On the other hand, commodity grouping of inventory items locates all bearings, motors and other like items together.

Commodity grouping of the MRO inventory allows a reduction in inventory investment through elimination of duplicated inventory. Commodity grouping also accommodates efficient execution of scheduled Preventive Maintenance (PM) for motors, large bearings, gearboxes and other items needing a prescribed care program while in storeroom inventory.

Increase Efficiency: Put Unused Vertical Space to Work

When reworking your storeroom, it's important to consider how available space will be used to store inventory items. Many times, storeroom managers feel they don't have enough space to house all the inventory the site requires. **Putting unused vertical space is the most commonly overlooked option when planning a more efficient MRO storeroom.**

For instance, rethink spacing of pallet rack shelving and opportunities to utilize a rack arrangement that incorporates hanging storage for hoses and items which can be stored vertically. Often, pallet racks are set on standard spacing throughout the storeroom, which leads to wasted space in the majority of rack locations.

High Density Cabinets Reduce Footprint 50%-60%

High-density storage cabinets utilize existing space more effectively than old metal shelving used in many storerooms. As a general rule, installing high-density cabinets can reduce the footprint of metal shelving by 50% to 60%. Not only do you gain higher utilization of floor space and staff, but these cabinets also provide better protection from dust, dirt and other environmental contaminants. **Figure 2** Before and After photos illustrate how high-density storage cabinets can be used to eliminate wasted space and protect stored parts.

Figure 2



Vertical Storage Systems Gain Valuable Storage Space

Vertical Carousels or Vertical Lift storage systems (**Figure 3, After**) are options that provide tremendous space savings, while maintaining limited access to materials to improve control of inventory. Vertical storage uses dead overhead air as valuable space to increase storage capacity.

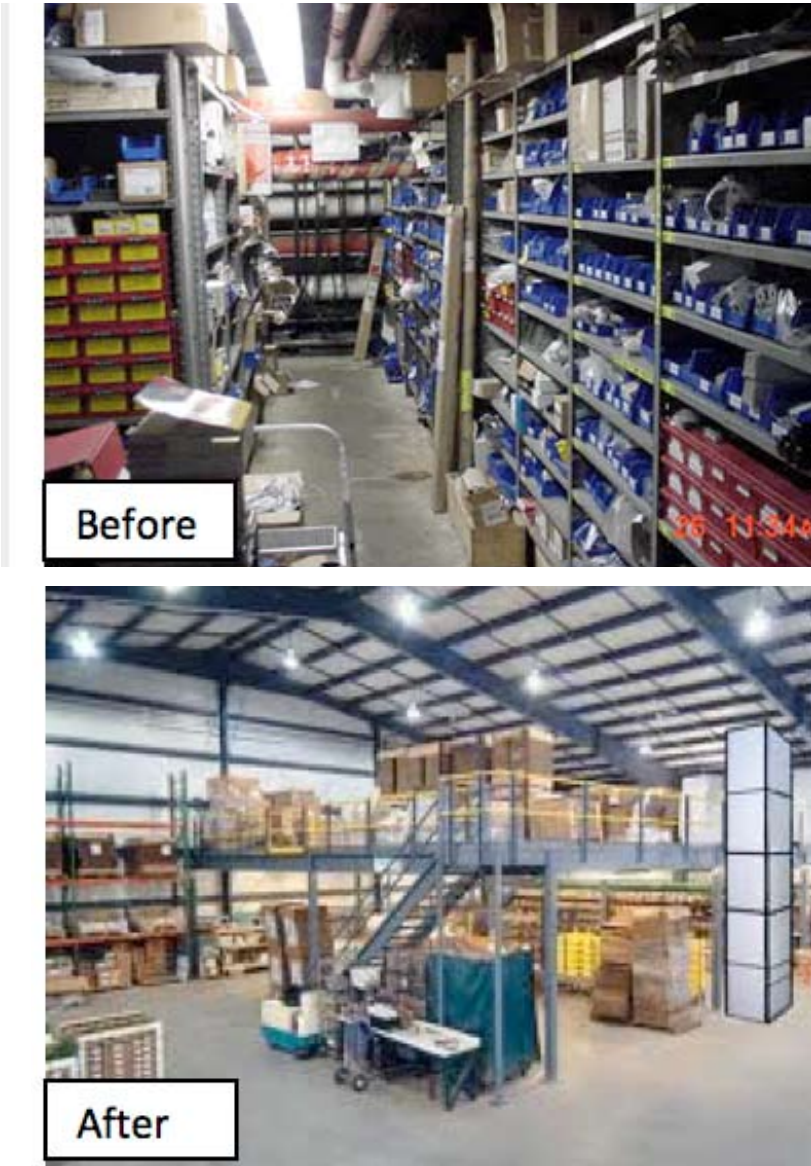
Figure 3



Mezzanines Create More Floor Space Overhead

Another tool to take advantage of unused vertical space is the mezzanine (**Figure 4, After**), which can be custom designed to fit your exact space and provide additional office or storage capacity.

Figure 4



Many Critical Issues Challenge Storeroom Managers

The storeroom isn't always the cause of not having the right part available for a needed equipment repair. Common issues faced by MRO storerooms include:

- Out-of-date Equipment Bills of Material (EBOM)
- Critical and insurance spare parts not identified
- Undocumented work processes
- High levels of obsolete inventory
- High levels of excess inventory
- Storeroom not secured
- Undocumented inventory management practices
- High incidence of expedited purchases
- Buying from non-certified suppliers
- A reactive maintenance culture that bypasses the storeroom

For your storeroom makeover to be successful, there are several best-practice work processes that should to be developed, implemented and executed. Each of these processes should be worked on and owned by storeroom staff:

- Receiving
- Incoming inspection
- Inventory put-away
- Inventory issue
- Min/Max reorder point
- Excess inventory identification
- Obsolete inventory identification
- Return to inventory
- Return to supplier
- Add-Revise-Delete
- Planned work kitting
- Repairable spares

Establishing a prescribed way to perform each storeroom task removes variation in the work process and designates the employee performing each step. When developing work processes, it's important to streamline the activity to remove waste and minimize bottlenecks.

As storeroom work processes are developed and implemented, there are two (2) core principles that should be adhered to:

(1) Partnerships must be established between internal business units to define expectations and delivered results to prevent waste in other areas of the business. (Example: Agreement between the storeroom and maintenance department that outlines the expectations of the storeroom to supply needed repair parts. . . and maintenance department understanding of their responsibility to support storeroom management efforts to meet these expectations. If each area of the business is operating as an island or silo, it's extremely difficult to identify issues that are creating waste in those business units. The result? An inefficient, reactive business environment.)

(2) Thorough audits of storeroom work processes must be conducted to identify procedures and policies that are not being followed. As these areas of non-compliance in the work processes are identified, solutions to resolve them must be implemented and work processes revised to reflect the changes.

Efficient Storeroom Procedures Start with Receiving

If your initial receiving process isn't performed properly, getting invoices paid on time and finding parts when they're requested may be a challenge for your company.

The initial stop for an incoming shipment is the receiving dock. Parcel shipments and palletized shipments are delivered by various carriers and require different types of equipment for unloading. Regardless of means of delivery, items should follow a consistent flow through the receiving area.

To ensure a real-time inventory system, items need to be processed through the receiving process within 24 hours. To accomplish the expected flow of material through the receiving department, the area needs to be organized and have a defined flow of material from staging area to staging area. Using an inventory bar code system is the most reliable way to remove several potential levels of waste in the receiving process and aid in efficient MRO inventory management.

Barcoding inventory also tracks any movements of the inventory to ensure the location of the part is always current. **Figure 5** (next page) shows a receiving area that has undergone an extreme makeover. A little paint and a small investment in new equipment (**After**) made this area an efficient and ergonomically friendly work station for employees.

Figure 5



Once items are entered into the warehouse inventory management system, items must be managed to ensure they are maintained in service-ready condition. A repair part damaged due to poor storage practices or exposure to environmental conditions doesn't have the same service life as an item that has been properly stored and maintained.

Cycle Counting Based on Item Criticality and Usage

A defined cycle count process is required to ensure the right parts are available when requested. The best-practice cycle count process involves classifying inventory items by criticality and usage. Items identified as critical or insurance spares should be counted on a quarterly basis with the expectation that these items are 100% accurate.

Items with high usage are the bulk of the inventory turns ratio and should be counted every six calendar months. High-usage items should have an expected cycle count accuracy of 95% and represent about 80% of total inventory value. Low-dollar items are items like nuts and bolts and other smaller inventory investments. These items should be counted annually; expected accuracy level should be 90%. Low-dollar items are prime candidates for vendor-managed inventory arrangements, in which the vendor manages inventory levels and items are stored in free issue bins in maintenance shops or close to end-use location.

Top Performance Requires Key Performance Indicator Study

To monitor performance of the storeroom and define a strategy to improve performance, you should follow a set of Key Performance Indicators that show trends in performance efficiency. A matrix of Key Performance Indicators that monitor both storeroom and storeroom employee performance should include the following:

- *Inventory Turns Ratio* – Best practice MRO inventory turns ratio is three to four turns annually
- *Inventory Value* – Best Practice is 0.5 to 0.75% of the Asset Replacement Value
- *Inventory Issued* – Dollar value of inventory issued
- *Inventory Received* – Dollar value of inventory received
- *Inventory Transactions* – Indicates the utilization of storeroom employees
- *Incidence of Inventory Stock Outs* – Best practice is less than 2% of total inventory requests
- *Identified Obsolete Inventory* – Expressed in Dollars, Best practice is less than 5%
- *Excess Inventory* – Items over the maximum stocking level, expressed in dollars
- *Inventory Accuracy* – Best practice is 95% overall inventory accuracy
- *Inventory Adjustments* from inventory cycle count activities

Storeroom Makeover More Journey than Destination

An effective storeroom makeover is more a journey than a destination. Many business managers invest tens of thousands of dollars to make improvements to their storerooms, then — within two to three years — slide back into old, inefficient ways of running them. When this happens, the frustration level of management and employees can be even higher than before. We often hear the phrase “another flavor-of-the-month failure,” indicating that previous initiatives have also failed to gain traction.

Planning an effective MRO storeroom makeover is a challenging project, but the REALLY hard part is executing and sustaining your newly established, efficient procedures. As you start any change project, keep in mind that you are not only changing the way you do business – you are also changing the expected behavior of your employees and the culture of your organization. In many cases, changes will require employee skill upgrades to perform modified jobs. These issues should not be viewed as barriers to improving the operation of your storerooms, but as opportunities to make your employees more productive and improve the competitive position of your company.

More Ideas, No-cost Professional Help

Finally, with all the traps and pitfalls involved in planning and implementing an MRO storeroom makeover, you can benefit from free professional advice on this complex project. If you'd like to learn from our experience with dozens of successful storeroom makeovers — **free and with no obligation whatsoever** — call me personally, Tom Jameson, at **Toll-FREE at 1-800-838-0473**.

Published by **ShelfPlus, Incorporated** | 2285 Executive Drive | Lexington, Kentucky 40505

Toll-Free Telephone: 1-800-838-0473

Direct Dial Telephone: 1-859-293-6175