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***If the business of maintenance was performed without the use of replacement spare parts or tools, life would be simple. But it isn't.***

Remarkably, many maintenance departments operate using their very expensive asset-management systems to track only the labor portion of the maintenance equation. Some companies take the next step and track only the stocked spare parts used by internal labor resources, ignoring any parts used by contractors. If your company fits into either of these two categories, your system cannot be validated (essential for an auditable system required by the FDA, nuclear-regulatory agencies, etc.). Your due diligence is immediately suspect. Your spend-analysis capability is compromised. Your maintenance-management efficiency is greatly affected. In short, without a fully operational inventory-management component, you do not have a managed approach to maintenance.

Unlike the equipment-asset register and work-management component of an asset-management system (AMS)—*which can be brought online very quickly and in stages by area or asset type*—the Maintenance, Repair & Overhaul (MRO) inventory component has almost always been thought to be best implemented "en masse" and "switched on" for use once every item has been identified, counted and entered in the AMS. With a little innovative thinking and discipline, this need not be the case in new system installations, new version updates or existing version improvements. Also, MRO suppliers have not been idle in recent years. Instead, they've been delivering to market numerous innovative ideas that take advantage of today's technology to dispense and track MRO items while automatically recording the transaction in the AMS for us.

**Inventory-system implementation and updating**

Whereas an equipment asset can be recorded in the system in one or two screens, a single inventory item like a simple washer can often require five or more screens to be completed for entry into the system. This is because each individual item must have the item identification (including photo i.d.), vendor information (preferred and secondary), manufacturer information, location information, classification and stocking information (i.e., insurance spare, stock, non-stock, etc.), issue information, reorder information, Bill of Material (BOM), costing

information, etc. Of this nomenclature, the item identification section is arguably the most important: It must be correct and consistently entered into the system as it encompasses the names and numbers we use to identify and search for the part on a daily basis.

In the last installment of this series *,* we reviewed strategies for migrating and cleansing the data and emphasized the importance of building a naming convention protocol for assets. We treat inventory items no differently in that the existing MRO legacy data must be cleansed and the MRO item register printed and checked for:

- Duplicate items in which the same item can be found in multiple locations under different recorded part numbers (Internal SKU #, Vendor part #, Manufacturer #, etc.), variations of name, differing bar code # and/or conventions
- Redundant items for equipment no longer in service (usually OEM items, long-lead-time items or required insurance spares for dedicated equipment)
- Redundant stock items that are not classified as insurance or long-lead items but have had no inventory turnover action in the previous 12 months
- Min/Max and reorder points set appropriately in accordance to the previous 12 months turnover action

Due to the high cost of stocking MRO inventory and loss of working capital, many organizations are now using their “cleansed” MRO inventory list to discuss Vendor Managed Inventory (VMI) opportunities. A VMI arrangement is an innovative vendor solution in which the vendor allows the maintenance department to carry items as a stock item on a consignment basis with no capital outlay. The vendor takes care of replenishing and managing the stock and bills the user when the stock is replenished. This approach frees up working capital and reduces the user’s physical management of the inventory. In addition, many VMI vendors offer setup and implementation assistance; in return for this level of service the VMI asks for a long-term protected vendor arrangement (usually two- to three-year terms.)

When implementing new software and no MRO legacy system exists, we can perform an innovative staged approach to inventory setup and MRO usage data capture by employing the services of a VMI partner(s) to facilitate the set-up of all of our most purchased items in the past 12 months from them and their competitors using purchasing records. Simultaneously, any purchased items for internal work or contract work can be entered in the system as non-stock items and through the work order will be automatically asset assigned to build the asset’s BOM. Items purchased in duplicate at one time or more than once in a year then become candidates for stock-item status.

In both instances, assuring accuracy and consistency requires the maintenance department must set in place processes or Standard Operating Procedures (SOPs) for entering MRO data into the system. Careful attention must be afforded to the following:

- A step-by-step (screen-by-screen) map of how to enter the part in the system
- Minimum information requirements to enter an item into the system
- Naming conventions (noun, descriptor)
- Deciding which item # will be the main search number (corporate #, vendor #, manufact-urer #, etc.)
- Use of alternate search fields to take advantage of previous or alternate names and numbers
- Photograph of the part to add to the record and attach to the inventory location bin so the part can be visualized in the event of stock out, or for non-stock items
- Linking to the manufacturer's Website for specification and additional information

**MRO inventory and technology**

MRO inventory has always enjoyed a special relationship with technology with bar-code scanning systems introduced in the early years of computerized-maintenance and Electronic Data Interchange (EDI) systems. That tradition continues today, as noted below:

- Vendors have been busy introducing such items as smart toolboxes linked into the AMS that have arranged drawers for toolsets that identify what tool is in use and by whom.
- There are now dispensing machines that require identification and/or a work order to release a regularly used item to the maintainer in strategic locations. Linked into the AMS, the transaction is recorded against the correct job every time.
- With new smart phone technology and scanning ability of mobile phones, work orders can be brought up on such devices and parts scanned out against the work order in any internal stocked inventory or in a VMI inventory— *in any location*—and recorded instantly.

Using a little innovative foresight and strategy, inventory management does not have to be the chore it used to be. In the next issue, we'll explore ways of setting up a failure investigation strategy using work-order types and failure codes**. MT**

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