A systematic approach to material handling maintenance: Maintenance is essential to business success. (Maintenance).(Brief Article)

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The term material handling equipment refers to conveyors, sorters, spirals, carousels, and a wide assortment of electrical and mechanical devices. Proper maintenance of this equipment is essential, because it prevents the loss of business or production caused by mechanical failure. This article introduces a systematic approach to material handling maintenance based on these lessons, and includes important tips to prevent common material handling maintenance mistakes.

The approach

The first step in material handling equipment maintenance is to list all material handling equipment. This step is important because it creates a starting point from which a company can develop ways to improve its physical assets. Within manufacturing operations, the list should include all physical assets, production equipment and processes as well as facility assets. For large distribution centers (DCs), this should include all major areas: mobile equipment, conveyor systems, sorter systems and facility-related assets, as well as bar code scanners, printers and other devices that keep a DC functioning.

Because maintenance depends on more than just knowing what equipment is in place, companies should take into account other factors that could affect how the equipment runs while an equipment list is being compiled. For example, equipment operating in the desert of Nevada with blowing sand requires more maintenance than in a mild climate on the East Coast.

Other factors include terrain, border regulations and the implications of schedules, calendars, cycles and peaks. Some questions to answer are:

* Is my facility's material handling equipment running three shifts and on weekends?

* Is it indoors or outside?

* Is there moisture or harsh operating conditions?

After the list is made, the company should evaluate the current state of maintenance, determining its strengths and weaknesses, as well as potential results from improvement opportunities.

The next step is to develop and implement a strategic maintenance plan. This plan must include a customized preventive maintenance (PM) program to ensure that the equipment runs with high reliability. PM is a continuous process, the objective of which is to minimize future maintenance problems. A PM program costs extra on the front end, but savings come quickly. Studies have shown that operations with PM spend less for maintenance than reactive run-to-failure operations.

The best approach to customizing PM is to let the craftsmen generate the PM program from the ground up. What do they think? They are the ones who will be inspecting the equipment, and if they think it should be looked at daily instead of weekly, this should be the approach to take. It gives them ownership of the equipment and the empowerment to make it work more reliably. When this comes together, look out. The results are significant gains in equipment uptime.

The form on page 62 illustrates what is needed for the major equipment systems of the material handling operation.

All equipment should be organized in this fashion according to what type of material handling equipment it is. Even the racks should be a part of this (the air-operated flow-through systems will need PM attention.) The air compressor will always be a part of a PM program.

The final steps in the systematic approach to material handling maintenance are validating results and return on investment. Companies should also identify priority areas for improvement based upon a total benchmark evaluation of the maintenance operation. They should also take note of the common mistakes made by those charged with maintaining material handling equipment and make sure that they are eliminated from the process. Of course, the ultimate success will be determined by whether the customer is satisfied.

Avoiding common mistakes

The most common and most obvious material handling maintenance mistake is to operate in a reactive, firefighting mode

following are tips for avoiding other maintenance mistakes:

* Do not overlubricate and always be certain to use the correct lubricant.

* Do not assume that your craftsmen can automatically handle the new high-tech equipment. They may need additional training and refresher courses from time to time. Develop an individual training plan for each craftsperson based on his or her level of expertise.

* Use manufacturers' recommendations as a starting point for a PM program, but be sure that the crafts-people themselves drive the program because they are most familiar with the demands on the equipment and the inspection processes. In some cases, strictly adhering to manufacturers' recommendations is counter-productive.

* How many spares should I have on hand? Make a concentrated effort to identify critical spares. By critical, look at downtime cost and long lead times. If 100 people are scheduled to work on an operation, then it must have spares to keep it in operations. Paint and plumbing supplies that are 10 minutes away are not critical spares.

* Keep manuals, documents, PM procedures and other inventories near the machines where they can be used. This is valuable information and an effort should be made to organize it at the machines. Successful organizations do this seriously, calling the process "facilitated assets."

Conclusion

With a systematic material handling maintenance approach that includes PM, a company obtains a proactive planned maintenance operation. This operation can prevent common maintenance mistakes and provide greater levels of service. Best of all, it eliminates the firefighting mode that wastes scarce maintenance resources.