March 29, 2010
Volume 9, Issue 12

Lean Thoughts

Leveraging your Maintenance Team?

OK … so I am not allowed to make general sweeping statements … but I am convinced that most organizations are not optimizing their maintenance groups. When I visit most companies the plant tour normally by-passes the maintenance shop probably because they are embarrassed about what we may see. In other cases, the group is secluded in a back part of the facility shrouded behind a tarp or curtain … with the excuse it shields employees from welding arcs.

But here is what I think … Maintenance folks tend to have the following common traits;

They like to keep everything … just in case … which means a lot of dollars
Maintenance employees are always busy … just ask them
Maintenance employees are busy doing stuff … what stuff? we are never really sure of.
Maintenance employees never travel alone anywhere in the plant.
Maintenance Employees are like Paramedics ready to administer first-aid to equipment
Maintenance employees do have a valued skill set !!

So how can we make the department more pro-active and value-add to the organization?

Get them organized through the **application of 5S+1**. This may seem basic but if you think this is a difficult task within the plant it is 100 times more difficult to convince these folks to get organized … remember they are always busy. But if a machine suddenly breaks down … how much search time is consumed while they walk back to their maintenance cave searching for replacement parts. Categorize their MRO supplies and place them on a **Kanban System or VMI program**. All of those fittings, fasteners and other gadgets of equipment first-aid can quickly consume a lot of cash. When equipment breaks the accountability of expense controls is put aside to get equipment up and running.

Get your mechanics pro-active … if you already have a TPM program in effect have them **conduct daily audits of specific machines and operations** … this is a great opportunity for enhancing the training of team members that are running the equipment. Most companies remain focused on just getting the employees to complete daily TPM tasks.

Schedule your mechanic's to **run a machine or operation** for an extended period of time during the week. These folks have hopefully an enhanced mechanical ability. They will run the operation using the eyes of a mechanic … they will find areas of opportunity and the ability to enhance and improve the process capability of the machine and/or the process. Now you will probably get significant push-back … since they will claim not to have time available to run the machine because they are busy doing stuff …

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CELLS

IndustryWeek defines cellular manufacturing as a manufacturing approach in which equipment and workstations are arranged to facilitate small-lot, continuous-flow production. In a manufacturing "cell," all operations necessary to produce a component or subassembly are performed in close proximity, thus allowing for quick feedback between operators when quality problems and other issues arise. Workers in a manufacturing cell typically are cross-trained and, therefore, able to perform multiple tasks as needed. Cells also work well in office functions but are paradigm prone.

Where Lean Thoughts can become Reality

"Unless you try to do something beyond what you have already mastered, you will never grow."

Ronald. E. Osborn

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Lean Thoughts

PINTO'S PROSE … New Manufacturing Paradigms

When we envision manufacturing, we still see huge assembly lines staffed with hard-working people. In the past, mass production has contributed to American prosperity.

Today, however, big factories that churn out high-volume products are highly automated and relatively easily outsourced to third-world countries where production-line work requires minimal training and provides upward mobility for low-skilled workers.

It's not that foreign labor is cheap—American labor is too expensive for the kind of work that remains after manufacturing is automated. So, big production facilities are simply going out of style in advanced countries, and large manufacturing plants are becoming obsolete. Bigger doesn't produce better; bigger isn't more rewarding to work for.

The advantages of sheer size have become liabilities. The age of big plants, covering square miles with billions of dollars' worth of assets, is over. Everyone thought that the oligopoly of the large car companies would go on forever. Just a decade ago, who'd have thought of GM in bankruptcy? The HBO documentary, "The Last Truck: Closing of a GM Plant," showed the shutdown of a three-quarter-mile-long production facility that had become too expensive to operate. The impact on the thousands who had worked there for decades brought home the reality of globalization and the destruction of the big-factory, mass-production way of life.

Automated production equipment today is smaller and cheaper, and requires fewer operators with better education and advanced skills. These types of people simply don't like to work on a time-card-punching production-line environment. They prefer the stimulating, innovative, fast-changing, adaptive atmosphere of small companies, with personal incentives and performance-based rewards.

In "Wired" magazine, February 2010, Chris Anderson writes about micro-factories, which he sees as the portals to the future of American manufacturing. They operate with "crowd-sourced" designs, released under "share-friendly" licensing.

In Anderson's example of a small automobile manufacturer, the pros handle the elements that are critical to performance, safety and manufacturability, while the community designs the parts that give the car its shape and style. Customers are well equipped with tools such as 3D design software and photorealistic rendering technology, and they are encouraged to enhance the designs and produce their own components that they can sell to their peers. Final assembly is often done by the customers themselves in local assembly centers as part of the "build experience."

Big companies are full of bureaucracy, procedures and approval processes—structures designed to defend the organization. Transformative change happens when industries democratize, when they're divorced from the creativity-crippling domains of large corporations. The Internet democratized publishing, broadcasting and communications, and the consequence was a tremendous increase of participation in everything digital. Now the same is happening with manufacturing.

The resurgence of entrepreneurship and specialized companies heralds the dawn of a new industrial manufacturing paradigm, built around small pieces, loosely joined, virtual and informal. Communities form around shared interests and needs. Most participants are not employees; they are driven by ability and need, rather than affiliation or obligation.

Today, micro-factories make everything from cars to bike components to bespoke furniture in any design that can be imagined. The collective potential of millions of small companies is being unleashed on global markets, as ideas go straight into production—no expensive tooling or big financing needs.

Global supply chains are now able to serve the small as well as the large, with changes driven by two forces. First, the explosion in powerful but cheap prototyping tools that are easier to use by non-engineers. And second, the shift in business practices of factories, which have become increasingly flexible, Web-centric and open to custom work.

Edited from Jim Pinto's e-newsletter

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