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LUBRICATION FUNDAMENTALS

Dr. Robert M. Gresham / Contributing Editor

Lean, mean manufacturing machines



Smart organizations today create a culture of shared thinking.

Through our relationship with the Society of Manufacturing Engineers (SME), I have come to learn more about a new term called lean manufacturing. What does this word have to do with tribology and lubrication engineering? Actually, lean manufacturing has a lot to do with us.

I suppose this subject resonates with me because of my industry experience working in manufacturing for both DuPont and E/M Corp. In those days life was actually pretty easy. All I had to do was ship the right quality at the right cost at the right time. I could put a number on each of these, and at the end of the day I knew in clear terms whether I had done the job. Better yet, these numbers were all compared to a standard.

Needless to say, the clever production supervisor made sure those standards weren't set too high, so your numbers always looked good. The customer was largely considered a necessary evil. Maintenance personnel, including tribologists and lubrication engineers, weren't in the loop. Rather, they were often the scapegoat for late shipments because the

KEY CONCEPTS:

- In today's cultural environment, organizations must share a common philosophy, a common set of ideas and a common set of principles.
- If everyone applies decisions and solutions based on different ideas, the solutions often can work against each other.
- Through leadership and example, the company boss can create a culture of positive change that encourages the principles of lean manufacturing to grow.

Shared thinking begins with leadership. Or as we used to say, 'Quality is a top-down process.' Lean manufacturing is also a top-down process.

equipment broke down and they couldn't get it up and running fast enough to prevent a delay.

Indeed, sales, R&D, accounting and most of management weren't in the production loop because either: (1.) sales made promises the plant couldn't keep, (2.) R&D produced poor processes, (3.) accounting was constantly harassing you and (4.) management made your life miserable with all its politics and bureaucratic paper shuffling. In our world view, clearly, we operations people were most important because if we didn't make the product, there was nothing to buy or sell. Yet, everyone conspired against us to make our lives difficult.

Sound familiar?

Lean manufacturing seeks to change this entire culture. The simplest definition that I have seen is lean is shared thinking. Those in the entire organization must share a common philosophy, a common set of ideas and a common set of principles. Yet, this does not call for brainwashing or the elimination of diversity. Rather, diversity is applied to the problem.

However, if everyone applies decisions and solutions based on a different set of ideas, the solutions often work against each other. Individually (operations, maintenance, sales, R&D, accounting and management) the solutions may be "right," but when taken collectively they can be counter-productive or even destructive.

This brings to mind the parable of the three blind men and the elephant. Three blind men wanted to find out what an elephant looks like. They each went up to it and felt it with their hands. The first blind man touched the elephant's trunk and said, "It looks like a giant snake." The second blind man touched the elephant's leg and said, "No, it looks like a tree." The third blind man touched the elephant's body and said, "No, you are both wrong. It looks like a wall." In a sense, all three are right, but the outcome is wrong.


So if lean manufacturing is shared thinking, what is it exactly that we are thinking about? The idea is to establish a culture where every employee, no matter his or her assignment, background or personality is, in a self-sustaining manner, continuously thinking, "How can we improve this?" People are encouraged to ask such questions as, "How can we make this better, faster, cheaper, safer, etc.?" "How can we work cleaner, safer, with less effort, make fewer mistakes, etc.?" By now I hope you get the idea.

How do we attain this state of nirvana where all the interested groups within a company have shared thinking? Interestingly, the answer is reminiscent of the early philosophical discussions surrounding the ISO 9000 Quality programs of the 1980s.

Shared thinking begins with leadership. Or as we used to say, "Quality is a top-down process." Lean manufacturing is

also a top-down process. This is not to say, the boss orders it. But, rather, through leadership and example the boss creates a culture of continuous positive change that encourages the principles of lean manufacturing to grow. This is a culture where there are no stupid questions or bad ideas but, rather, a culture where each question or idea is considered for its merits. There are no recriminations for poor ideas or shallow thinking but, instead, a learning culture that makes the next idea or question a better one. This truly takes a top-down leadership to instill.

In the meantime, to read more about this subject I suggest you pick up a copy of the book *The Hitchhiker's Guide to Lean: Lessons from the Road*, authored by Andy Carlino and Jaime Flinchbaugh and published by SME.

For more information, visit SME's Web site: www.sme.org. 



Bob Gresham is STLE's director of professional development. You can reach him at rgresham@stle.org.



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