LEAN INSIGHTS

Avoid the drive-by kaizen

By Dr. Timothy D. Hill

It's important to get your people to implement change right away. You don't want them to be stuck in a boring training session for days on end.

To get people out of the classroom, businesses have insisted on continuous improvement training (kaizen) that gets people out on the floor as soon as possible. The kaizen team goes out, looks for improvement opportunities, seizes on those and then moves on, looking for new opportunities. The drive-by kaizen comes from the rapid look for kaizen opportunities.

These businesses often rely on a 5S exercise to start their kaizen efforts. The "5" and "S" come from the five Japanese words:

Japanese	English	CANDO
Seiri XE "seiri"	Sort	Clearing Up
Seiton XE "seiton"	Set	Arranging
Seiso XE "seiso"	Shine	Neatness
Seiketsu XE "seiketsu"	Standardize	Discipline
Shitsuke	Sustain	Ongoing Improvement

The English equivalents (keeping the "5S" theme in mind) are: sort, set, shine, standardize, and sustain. CANDO is an equivalent industry term to 5S.

Essentially, this is a process to organize a work area, focused on improving efficiency, safety, layout, and flow. 5S can produce some immediate and obvious results. It is often used in a kaizen event or a kaizen blitz (a rapid kaizen.)

After a kaizen blitz or 5S events, workplaces can become better organized. Tools and materials can be kept in well-defined locations. Operators notice that their jobs become somewhat easier. Supervisors find that it's simpler to visually identify problems – deficiencies, excess inventory, misplaced equipment, etc. And, there may even be a marginal increase in productivity.

But, the benefits are difficult to sustain, improvements tend to be isolated, and impacts are difficult to quantify. 5S is not Lean; it's a tool at best or a means to prepare for Lean.

When Lean is substituted with these drive-by kaizen/5S efforts it won't be sustainable.

In order to avoid the short-lived drive-by kaizen effect, a Lean implementation needs to be based on root cause problem solving. When I've trained for Lean improvement, one of the early sessions is always based on root cause problem solving. This does three things:

1. Treating the symptom with a Band-Aid.
This is a worst-case scenario. Either you wind up reacting to a symptom or you apply a partial answer to a root cause. Worse if you do both, and this happens a lot. Automotive, manufacturing, health care and other areas have been tempted to treat the first presenting problem that they find. They don't look for the problem underlying the presenting symptom, they don't wait to collect baseline data or they rush in to address the problem. All three of these responses are likely to mean that you will be looking at the wrong problem. Applying Lean to this will likely fail and take with it the goodwill for change.

Take the time to look for the root cause problem and collect whatever baseline data is necessary. The first thing you see is often a symptom of an underlying cause.

2. Looking for the true root cause for the problem.
By applying a root cause analysis with problem solving, you're increasing your chances of getting to an effective countermeasure. This is not a lengthy process – just be sure to do at least a cursory root cause review. It may happen that the problem is an obvious one. Let's say a handle has broken on a controller. "Fix the handle" you might say and you'd be right. But do a root cause review to see why the handle was broken or you might be replacing it sooner than you think!

By doing even a brief root cause review you can often find a better countermeasure.

3. It emphasizes the elimination of the problem and not just "managing it."
Lastly, you can avoid the drive by kaizen if you emphasize the elimination of a problem. Very often, from manufacturing to health care, I've seen people rush to manage a problem. Not only are you adding unnecessary overhead, but you're prolonging the problem.

People think that eliminating a problem will be too difficult. They conclude that they can't eliminate in one step. They may be right and need to make an initial inroad into reducing the problem and then attach that same problem again in a different manner. They can get to zero with multiple attempts if not in one step.

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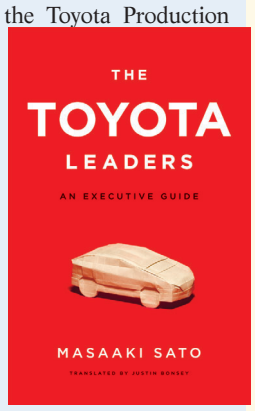
Books to read

The Toyota Leaders: An Executive Guide **by Masaaki Sato, translated from Japanese by Justin Bonsey**



This book was cited as a "must read" for readers who are in, or would like to be in, a management role in the automobile or any other sector. Sato is Japan's leading automotive sector expert and points out that understanding Toyota's success means that you have to go beyond the Toyota Production System and learn about inventor and Toyota Group founder Sakichi Toyoda's precepts that have served as the backbone of the carmaker's executive culture since its inception and still guides decision-making at the top levels of Toyota. North American leaders would do well if they moved beyond the superficial aspects of production.

The stories behind Toyota's growth in the U.S. — Toyota's second home ground — as well as the stories such as the failure of the Toyota Crown that became the Toyota Corolla are all worth reading. The Crown could not be driven on U.S. highways. The rapid development of the Corolla (a huge success story) and the synergy between Lexus and the Prius all make compelling behind the scenes stories, even if you're not interested in the management lessons.

Importantly, the description of Toyota's involvement in the US and Canada are added to with the story behind Toyota's interest and entry into the BRIC countries. In addition to the issues pertaining to Brazil, Russia, China and India, Sato goes on to tell about Toyota in the European Union.

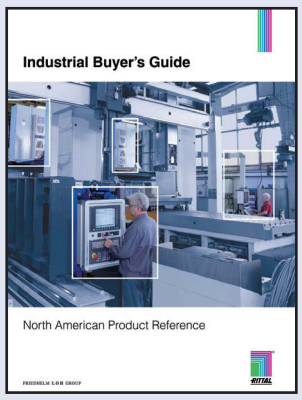
WEB WATCH:

• Questions from the plant floor

How do we know when we've got a good A3 or kaizen opportunity?

Get Tim's latest answer online in the Lean Manufacturing portal at www.automationmag.com.

LITERATURE REVIEWS



Rittal Industrial Buyers Guide

Rittal new Industrial Buyer's Guide (IBG) is the ultimate reference when planning projects that require enclosures, climate control or a complete enclosure solution. Rittal's IBG contains a wide variety of products to help meet the challenges faced by North American integrators and manufacturers.

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PRODUCTS: **TEST & MEASUREMENT**

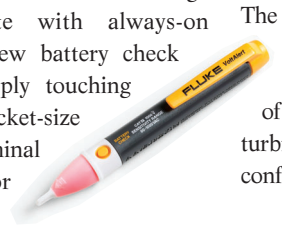
Vibration meter

ITM has presented the REED VM-6320 vibration meter, which measures acceleration, velocity and displacement with a bearing condition monitoring function and piezoelectric accelerometer. Measurement ranges: velocity, 0.01 cm/s to 20.00 cm/s (RMS); acceleration, 0.1 to 200.0 m/s2 (peak); and displacement, 0.001 to 2.000 mm (peak-peak). Frequency ranges: acceleration, 10 to 1 kHz ("1" mode), 10 to 10 kHz ("10" mode); velocity, 10 Hz to 1 kHz; and displacement, 10 Hz to 1 kHz.

www.itm.com

Non-contact voltage tester

Fluke has introduced its new 1AC-I VoltAlert AC non-contact voltage tester complete with always-on circuitry and new battery check button. By simply touching the tip of this pocket-size tester to a terminal strip, outlet or power cord and watching for the tip to glow red, users can quickly determine if there is voltage in the line. Additional features include voltage detection of 90 to 1,000 VAC; CAT IV 1,000-V over-voltage rated for best-in-class added user protection; and integrated clip design, optimized for pocket storage.



www.flukecanada.ca

Wireless turbine meter totalizer

Accutech, a division of Control Microsystems, has launched its TM10 turbine meter totalizer, the latest battery-powered wireless instrumentation product that offers precise flow rate and total accumulated flow volume data for standard turbine meters. The TM10 field unit measures the volumetric flow rate of liquids or gases by detecting the frequency of pulses generated with a standard turbine meter and applying a user-configured proportional "K" factor. A 22-point correction curve is used as a final offset or for custom calibration of the turbine meter as required. There are two principal outputs providing flow rate and totalized flow measurement.

www.controlmicrosystems.com

Sound and vibration software

National Instruments has released the NI Sound and Vibration Measurement Suite 2009, a collection of analysis and signal processing tools for noise, vibration and harshness, machine condition monitoring and audio test applications. It features a new continuous frequency sweep virtual instrument that greatly reduces the time it takes for engineers and scientists to perform frequency response tests, the company says.

www.ni.com