

Volume 11, Issue 28 ☐ July 12, 2004

Important Dates to add to your calendar...

Lean Accounting Sessions Rescheduled

The lean Accounting 'Next Steps' are confirmed and rescheduled to **July 20th and 21st**.

- ☐ **Jul 20th, "Solving the Std Costing Problem"**
- ☐ **Jul 21st, Strategic Performance Measurement for Lean Manufacturing**

Both of these will be delivered at Velcro Canada in Brampton – beside the airport. For full information contact Laura or myself at 519-893-6260 or, for a full outline check: www.hpmconsortium.com

- ☐ **Aug 12: HPM GMT Meeting at Orenda.** This is HPM's 'Exec' committee who sorts the issues & prepares the agenda for Board meetings. Any Board Member can pick a position & attend as a 'shadow.' **Chairs include:** Leverage, Learning, Opportunities & Alliances, Vision, & Finance.
- ☐ **Aug 25th : HPM Board Meeting – Location TBA**
HPM'ers Re-Mark/verify your Calendars!
- ☐ **Sep 23rd, HPM Practitioner-to-Practitioner Forum** will focus on "Value Stream Mapping in Non-Mfg/Administrative processes." We are searching for folks with a Best Practice who'd like to exchange with others – a Consortium win-win! Call HPM Office.
- ☐ **Sep 30/Oct 1: The 4-5 Month "Practice of Leadership & Coaching" begins. Registration is open now.** Some fifteen folks are looking to begin this essential training this fall. As before – since this is led by an international provider used by GE US and others, the sessions must be filled in advance or they will be cancelled. Please reserve your seats early – **names can be provided up to 30 days in advance.**
- ☐ **Oct 18-22: 2004 AME "20th Anniversary" International Lean Conference in Cincinnati.** "Focus on Global Enterprise Excellence" & this year, for the first time, the AME annual conference will be held concurrently with the [Advanced Mfg & Productivity Exposition](http://www.ame.org). Free to attendees. Check out the detail at www.ame.org.
- ☐ **Jun 6-10 (2005): "Implementing & Sustaining Lean Thinking Across the Enterprise"** An AME major Practical Education Conference in Edmonton Canada. It will be of special interest to innovative leaders & companies **who want to use this 5-Day conference to inspire their enterprise to produce spectacular results over the next 11 months.. and reward them with the opportunity of being on this program!!** Such companies are being sought as part of the 32 Best Practices to be presented – by companies such as yours with an achievement story to tell. Call for presentations will be issued in August... this is a heads up. This 5-day conference is for 'doers'.

Beautiful... A Different Paradigm

While not shots of Saturn, here are some beautiful portraits of a strange but exciting craft entitled "Space Ship One" – the first non-government space ship ever. More evidence of government vs. private sector thinking recorded at a photographers' forum in Mojave, California. <http://www.richardseaman.com/Aircraft/AirShows/SpaceShipOne2004/index.html>

Heads Up:

HPM Topics Under Discussion for GMT

1. **Lean Diagnostic part of New Member process.** (To be discussed Aug. 12th @ GMT Mtg.)
The thinking: HPM'ers are aware of the **3-Hr. 'Quick Lean Assessment'** done by HPM Members about every 4 months. The assessment focuses on the status of Lean excellence throughout a company based on 12 Lean measures. Simple bar chart results are superimposed upon each other to quickly show progress – or not. But to get started, other consortiums – such as AfEE – use a 3-4 day Diagnostic that includes on-site interviews and a full report-out to sr. leaders. As a result, decisive changes have taken place (give us a shout if you'd like to talk to AfEE Consortium leaders who have all have gone through it at the beginning.)
2. **So What is Proposed?:** It's felt that potential New Members would gain high value from an objective 'status report' provided by 'outside eyes' before they joined HPM. **In fact, it would be of high value should they join or not.** The 3 day Diagnostic would be compatible with the Assessment as it focuses on the same 12 Lean Measures of the Quick Assessment – but in far more depth including interviews with employees, managers, supervisors, and senior executives. **Upon its completion., a formal Road-map for the next 12 months would be proposed** From that point on, the Assessment would monitor progress.

Is The Quality Gap Narrowing???

Our very good friend, Ross Robson, Director of the Shingo Prize, reports that a writer based in Detroit provided him with the following data:

The following is the number of cars recalled in U.S. by year.

- ☐ *In 2002 GM recalled 4.5 million cars and in 2003 recalled 7.3 million cars.*
- ☐ *In 2002 Ford recalled 2.4 million and in 2003 recalled 3.4 million*
- ☐ *In 2002 DaimlerChrysler recalled 6.4 and in 2003 recalled 2.0 million.*

In 2003 – the second largest automobile manufacturer in North America – Toyota - only recalled 200,000 cars. Draw your own conclusions and the impact that Lean has on such data. I leave it to you to decide the scope of the quality gap. Ross E. Robson, Executive Director (435-797-2279) Shingo Prize for Excellence in Mfg Utah State University, Logan UT 84322-352, www.shingoprize.com

Creating Basic Stability

Jim Womack's periodic newsletters have been inspirational to all. If you want to review them all – you can go to his www.lean.org site and proceed to sign in. Once in – check out all the background resources this site carries.

Dear Dave:

On my recent walks through companies, I've had an important realization. I had been assuming that in most companies the process steps in a typical value stream are sufficiently stable that it's practical to introduce flow, pull, and leveled production right away. By "stable" I mean that each process step is **both "capable" (able to produce a good part every time it operates) and "available"** (able to operate every time it is needed.) Operational availability (OA) is a good term for the combination of the two.

I've long known that at Toyota an assembly process would launch with operational availability of about 97% and strive to reach 100% through kaizen. And I've known that in even the most complex transfer lines, like engine block machining, Toyota achieves and maintains operational availability of 85% or more. That's striking evidence of stability.

But in typical operations I'm seeing recently I'm finding to my surprise that operational availability in cellular assembly (which is much less demanding than long car assembly tracks) is often no more than 90% even when there are no delays due to lack of materials. In complex machining operations OA is often below 60% and sometimes as low as 40%. And these are household name, global machining operations who claim to be well down the path to lean production!

With operational availability this low, trying to introduce continuous flow by linking steps and connecting areas of flow with pull systems is certain to be an exercise in frustration. The only way these systems can work at all is with large buffers of work-in-process between each step and these inventories hinder further improvement by hiding problems. So I've been forced to conclude that a lot of us need to pay more attention to creating basic stability as we try to flow and pull.

(Let me hasten to add that this problem extends far beyond factory equipment. I recently made an appointment for a medical test and had to postpone it twice because the complex equipment wouldn't work. And does anyone know how to maintain jet-ways at airports? I find on my travels that jet-way problems delay the arrival and de-boarding on about one flight in twenty. And how can one of those simple moving walks in airports ever breakdown? But I seem to stumble onto at least one unmoving walkway on every trip. And why can't anyone keep our email server running? Poor operational availability is pervasive - and avoidable - in every aspect of our lives.)

Low operational availability traces to six types of problems:

- **Downtime**, when a process won't run at all (also termed major breakdowns or major stoppages).
- **Changeover time**, to convert from one product to the next.
- **Minor stoppages**, of just a few seconds.
- **Cycle time fluctuation**, when a process takes longer than planned.
- **Scrap**, meaning some production is lost.
- **Rework**, in which parts must be run through the process again, reducing the time available for new parts.

All of these are bad and all should be reduced. But be careful to avoid simple calculations of equipment utilization that confuse availability with uptime. The former is always good: Equipment must be able to run when you need it. The latter can be good or bad: High utilization (uptime) to overproduce items not needed is one of the worst forms of waste. And reducing time lost to changeovers by producing bigger batches rather than by reducing setup times is a big mistake as well.

The most important point is that these problems don't go away with a bit of random kaizen and they certainly don't go away if firms are only practicing breakdown maintenance without identifying trends and determining root causes. They also appear quickly in new equipment (sometimes bought because the old equipment won't run enough to meet demand) unless the equipment is very carefully designed from a maintainability standpoint and then systematically maintained.

The challenge is to create a rigorous maintenance process that involves everyone, gathers the appropriate data, discovers the root causes, and installs fixes so known problems don't recur, and new problems are anticipated (for example, from predictable wear during the equipment's life cycle).

With these measures in place, the lean goals of flow, pull, and leveled production are vastly easier to achieve. Even better, as basic stability is created, many firms will discover that they don't have capacity constraints. Indeed, they may find that they have too much capacity rather than too little.

Best regards, Jim Womack, President and Founder, Lean Enterprise Institute, Inc.