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LEAN THOUGHTS

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Ten Reasons Why One Piece Flow Will Not Work

Rather than insisting that one-piece flow will work, we like to ask clients why one-piece flow will not work for them. Here are some of the most common reasons we hear, and some ways we respond:

- 1. We can't get needed materials in quantity, in quality or in time.**
You are absolutely right. Fix this first. If you can't seem to get this issue the attention it needs, implement one-piece flow anyway, watch the line stop, make the problem visible so that you get the attention and resources needed to fix the problem.
- 2. We have unreliable equipment that may break down, causing downstream processes to run out of parts.** See 1 above.
- 3. Our people will resist this change.**
So what? That's what education is for. If the leaders don't understand and believe in one-piece flow enough to take the time to remove resistance through education, don't bother with one-piece flow. This is a weak excuse. Learn about Motivation and address this issue as you would a speed bump in the road.
- 4. Our people are not cross-trained to do more than one or two limited tasks.**
Shame on you for limiting people's potential to learn and develop to their fullest. Take "boring" out of work by giving people variety, and watch morale soar. People are not motivated to learn new things, you say? See 3 above.
- 5. Long changeover times prevent us from doing one-piece flow.**
If you are really trying to run one-piece lot sizes through 1,000 ton stamping presses, bravo, and see 1 above. Flow one at a time wherever you can. In practice you will find that this is more often than not. When changeovers do present a genuine barrier to one-piece flow, reduce the changeover time continuously, all the while reducing lot sizes to approach one piece flow.
- 6. There is too much distance between processes to move one at a time.**
This is one I usually let the students figure out for themselves.
- 7. The process produces defects that will stop the line too frequently if we have no buffer.** See 1 above.
- 8. Process cycle times are unstable or variable, creating imbalance between workers.**
The first step is to examine your process cycle times through direct process observation, break the work into smaller work elements, take out waste, and recombine them. If chronic variation is still above the 5% to 10% range, see 1 above. If it's predictable variation, this is only really a problem if you are trying to maximize the utilization of the man-hour, which may result in greater waste such as overproduction, inventory, transportation, defects and processing which adds no value. Proceed with one-piece flow and kaizen.

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Where “Lean Thoughts”
Become Reality



9. Our machines are not designed for one-piece flow.

This is too true, even in our daily lives. A washing machine is a good example. Need to wash one shirt? You have to wait until you have close to a full load or you waste water and energy. So we batch our dirty clothes. The washboard and basin was the Lean solution, it just needs some **Jidoka**. The same is true with a dryer. You don't dry one wet shirt in the machine, but you might hang it up to dry if you don't need it dry right away. Disciplines like 3P (Production, Preparation, Process) exist to create one piece flow equipment. If you cannot get equipment planners and designers involved early enough to keep bringing in batch equipment, see 3 above. Failing that, you can manage by using SWIP to “pulley & pail” flow through batch processes.

10. We have occasional work that interrupts the process.

There is something in TPS called the **Water Spider** which acts as a line support function to handle relief work and recurring-but-not-every-cycle tasks such as moving materials in, moving finished goods out, building another cardboard box when the previous one has been packed full of finished product. When it is not practical to have a Water Spider, you can have foremen or team leaders help in these areas. Failing that, create Standard Work to reflect the changing work sequence and work balance every so many pieces for these types of recurring tasks.

Turn these ten reasons why one piece flow will not work by 45 degrees, and you get the Ten Reasons for Poor Cash Flow. Turn them by 90 degrees and you have the Ten Reasons for Long Lead Times. Whichever way you turn them, turn them into competitive advantage by addressing each of them and successfully implementing one-piece flow.

Some Thoughts On... ESEE Changeover

One of the problems I have found with changeover is that it can be overwhelming. This makes it hard for many people to get their arms around it and they don't even begin. There is an old saying in my neighborhood that “You can eat an elephant if you cut it into bite size pieces.” Changeover is much the same way. If it can be broken down and attacked systematically it becomes ESEE .

One tool I have developed I call ESEE. In this acronym can be encompassed everything necessary to begin as well as finish a changeover project. At least to the extent it can ever be finished. There is always room for further improvement but that is a subject for another day.

ESEE stands for Eliminate, Simplify, Externalize, and Exactly!

The Eliminate step comes first because there is no point whatsoever in improving something that doesn't need doing in the first place.

Look closely at every changeover task and ask “Why is this being one? What would happen if we stopped doing it?” Some of you might say that everything you do is necessary. Are you sure? Far too often we start doing things for excellent reasons but continue to do them after the need has gone. Do you adjust conveyor rails on both sides?

Simplification is just that, look at every task and activity in changeover and ask how it could be made simpler. Tools should never be used for routine changeover. Time is spent looking for them, the wrong tool is used either by accident or because the right tool was not available, worn tools cause damage, tool usage requires more skills... (Need I go on?). If you need to adjust photo eyes, simplify it by mounting multiple photo eyes, pre-positioned and calibrated, for each setup. Connect them via a selector switch. Anyone can set the switch in seconds as opposed to spending 5 minutes or more tinkering with moving and adjusting a single eye.

Externalize all possible tasks. This means doing them while the line is running. Do machine parts require cleaning? If there are 2 sets of parts, the previously used “dirty” set can be removed and set aside.

Exactly! means that all tasks must be performed exactly the same way, to the same end result every time, regardless of who performs them.

Changeover is hard. Reducing changeover time and keeping it reduced is even harder. A logical system for attacking it can make it ESEE. (And easier)

Source: John R Henry www.changeover.com

Contact me if you need coaching or facilitation help in the areas such as but not limited to; 5S, Value Stream Mapping, Set-up Reduction, Problem Solving or Policy Deployment and Consortium Development



2008 Consortium Event Schedule



Tour Workshop Conference

January	February	March	April	May	June
<p>T</p> <p>Wednesday 16 <u>Eaton Electrical</u>, contact Joe Fisher, JoeRFisher@eaton.com</p>	<p>T</p> <p>Wednesday 13, <u>ACE Bakery</u>, contact Cindy Grolleman, cgrolleman@acebakery.com</p>	<p>T</p> <p>Wednesday 19, <u>Nestle Waters</u>, contact Mariela Castano mcastano@perriergroup.com</p>	<p>C</p> <p>Consortium Shareshowcase</p> <p>Saturday 05 <u>Eaton Milton</u>. Contact Cindy Grolleman cgrolleman@acebakery.com or Joe Fisher JoeRFisher@eaton.com</p>	<p>T</p> <p>Wednesday 14, <u>Alumicor</u>, contact Barry Wood barry@Alumicor.com</p>	<p>T</p> <p>Wednesday 18, <u>Morrison LaMothe</u>, contact Tony Vita tvita@morrisonlamthe.com</p>
July	August	September	October	November	December
		<p>T</p> <p>Wednesday 24, <u>Kraft Foods</u>, contact Hanif Jivraj hjivraj@Kraft.com</p>	<p>T</p> <p>Wednesday 16, <u>CTS Corp.</u>, contact Navneet Mann, navneet.mann@ac.ctscorp.com</p>	<p>T</p> <p>Wednesday 12, <u>Messier-Dowty</u>, contact Mike Smith Mike.Smith@Messier-dowty.on.ca</p>	<p>T</p> <p>Wednesday 10, <u>Orenda</u>, contact Brenda McIntosh brendamcintosh@orenda.com</p>