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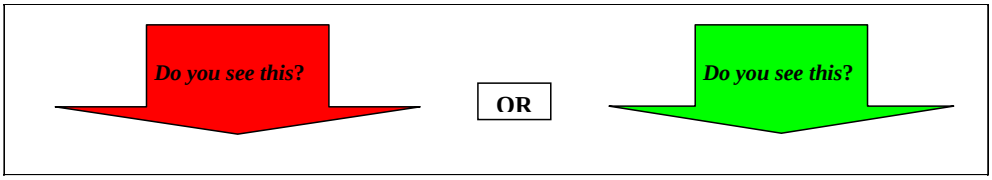
Lean Thoughts

Lean Deployment Observation Sheet

Quick Lean Audit



TRADITIONAL	LEAN
Visual Management	
❑ No notification/information (and/on) boards ❑ No/little evidence of Lean metrics used ❑ Variation in work performance ❑ Standard procedures not being followed ❑ Dirty/cluttered, messy work area ❑ Messy bathrooms ❑ Materials piled everywhere ❑ Unmarked gauges & tools ❑ No min/max levels at line side ❑ Empty shadow boards, tools, missing disorganized ❑ Oil dry on floor, pig socks used, overflowing drip pans, puddles of fluid on floor	❑ Use notification/information (and/on) boards ❑ Demonstrate use of key Lean metrics ❑ Standardized Work forms prominently displayed/workers knowledgeable ❑ Workers do the job the same ways every time ❑ Sparkling, clean machines, tools, work areas and bathrooms ❑ Designated area for empty/full containers ❑ Marked gauges & key equipment ❑ Min/Max levels clearly marked ❑ Shadow boards for tools that are used and maintained ❑ Shiny clean floor-painted
Evidence of Teams	
❑ No production data visible (or outdated ❑ Lack of conference rooms for teams to use ❑ Suggestion campaign old, suggestion box not active, little implementation of suggestions accepted ❑ No problem solving involvement at operator level ❑ 8D done in Quality Department ❑ Team not actively involved in Standardized Work activity or work flow	❑ Available team meeting areas ❑ Team data prominently displayed ❑ Teams implemented many of their own suggestions ❑ Proof of problem solving activities many places in plant (Fishbone diagrams filled out and displayed, PDCA cycle being followed, 5 Why's) ❑ Aggressive Team Standardized Work input
Changeover	
❑ Usually done by one person ❑ No tracking of changeover time ❑ Most work done when machine is down ❑ Lack of standardized methods – no specific work task/procedures identified	❑ Changeover done by team ❑ Clear internal/external task identification ❑ Changeover chart tracks times, improvements, goals, ideas ❑ Use of changeover cart, visual organizations used, standard methods

What If Everybody in Canada Flushed At Once?

The water utility in Edmonton, EPCOR, published the most incredible graph of water consumption last week. By now you've probably heardThat up to 80% of Canadians were watching last Sunday's gold medal Olympic hockey game.

But still the degree to which the water consumption matches with the key breaks in the hockey game is stunning.

http://www.patspapers.com/images/uploads/flush_game.jpg

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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Pull Systems

- ❑ High level of inventory on lines & in plant receiving and shipping
- ❑ Materials waiting & stacked at lineside
- ❑ Delivery timing of materials unregulated
- ❑ Centralized schedules w/out Takt time
- ❑ Products "pushed" to the next area

- ❑ Low level of inventory on line & in plant
- ❑ Read Kanban system in use
- ❑ Material delivered frequently to line side
- ❑ Use of small supermarket areas
- ❑ Localized/Customer demand with Takt times

Returnable Container/Dunnage

- ❑ Cardboard containers
- ❑ Wooden pallets
- ❑ Large number of parts / containers

- ❑ Re-usable containers (plastic, metal) recycled between Ford and Suppliers
- ❑ Small number of parts/containers

Layout and Good Material Flow

- ❑ Insufficient, poorly spaced docks
- ❑ Cluttered staging areas
- ❑ Warehouse/storage poorly placed for continuous flow
- ❑ Designated scrap areas that are full
- ❑ Long conveyors, full of WIP

- ❑ Point of use shipping & receiving docks
- ❑ Visually clear and simple staging areas
- ❑ Well placed small market area
- ❑ Little scrap/use of mistake proofing
- ❑ Short conveyors, min/max levels marked

Lean Process Flow

- ❑ Assembly running much fast than customer requirements Large buffers/production push product
- ❑ Large off-line repair bays

- ❑ Assembly tied to customer requirements
- ❑ Small buffers used sparingly to de-couple major processes
- ❑ Production pulled from prior operation

Cell Design

- ❑ Inefficient assembly configurations
- ❑ Assembly long way from point of use
- ❑ Storage of completed materials (more than 1 day supply)

- ❑ U-shaped cells/no wasted motion
- ❑ Cells adjacent to point of use
- ❑ Sub-assembly and raw materials storage of four hours to support production

Machine Stability

- ❑ Little visible evidence of preventive maintenance process
- ❑ Frequent breakdowns & no tracking
- ❑ No Overall Equipment Effectiveness data
- ❑ No study/analysis into major losses

- ❑ Maintenance schedule posted and carried out-employees involved
- ❑ Breakdowns fixed quickly and prevented
- ❑ OEE at 85% or better (posted and tracked by teams)

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