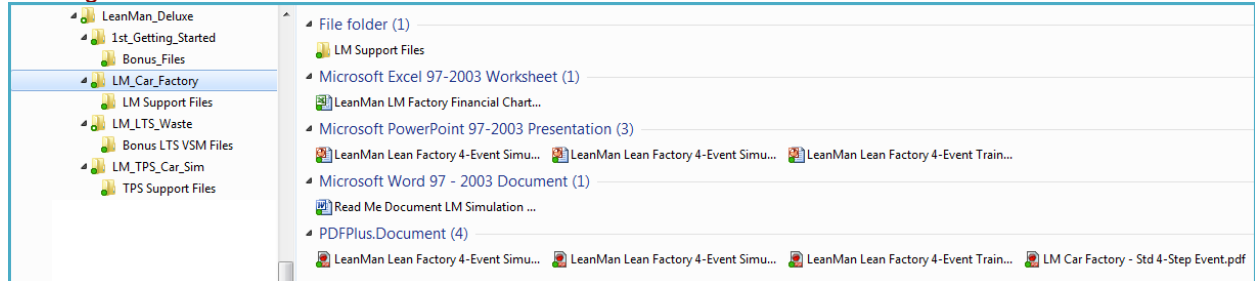


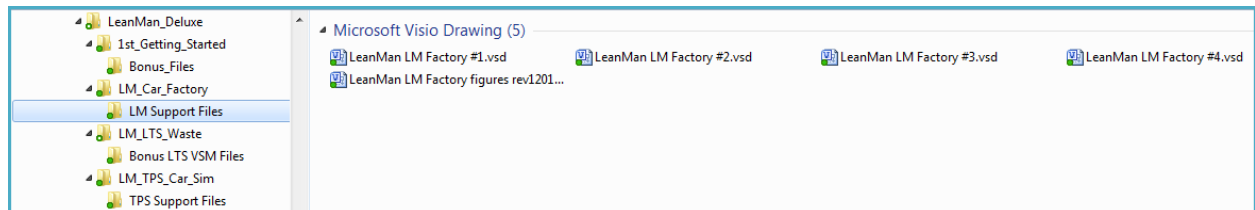


Read Me Document LM Simulation Rev1701.doc

CD Organization:

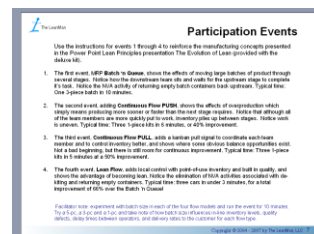
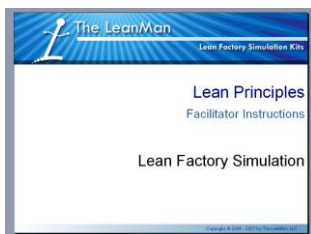


The first action should be to look at each file type or name shown in the directory. Here you will find some navigation information to help you use the files provided with the product, starting with this Read Me Document file.



The 4-Event Training Guide is provided in both PowerPoint and Adobe formats. The participant placemat set is also provided in both file format versions, but neither set is pre-printed. This allows you to edit and print just what you need for each simulation event.

The guide shows all setups, provides talking points for the facilitator; with suggestions for follow up after each step to include elements of 5S and Waste review.



The table and participant set up and flow is provided using graphical representations of the training room. Metrics reporting is important and must be done with meaning.



Financial Chart LeanMan Car Factory	Event #1 Batch 'n Queue	Event #2 Cellular Flow - PUSH	Event #3 Cellular Flow - PULL	Event #4 Lean Flow
# Cars delivered x \$500 ea = Total Sales =	3	3	6	9
Cost of Goods Sold				
Sales Material = # cars sold x \$100 ea	3	3	6	9
Labor = # workers x \$165 ea	6	6	6	3
Labor OT = # minutes OT x \$40 ea worker	4	4	2	0
Overhead = # Chairs used x \$10 ea	5	5	5	3
Scrap = # nonconforming cars x \$100 each	3	6	2	0
Total of COGS =				
Capital Charges				
Work in Process				
Stockroom = # undelivered kit bags picked x \$100 ea	2	3	1	
Wheel/Axle/Brake Subassy = # Subassembly Items built x \$10 ea	11	4	4	2
Car Assy = # Undelivered cars built x \$60 ea	3	1	1	1
Inspection = # Cars in Inspection x \$100 ea	3	1	1	
Ship = # Cars in Finished Goods x \$100 ea	0	1	1	0
Facilities				
# Tables used x \$15 ea	3	3	3	1
# Fixtures used x \$10 ea	5	5	5	
Total Capital Charge =				
Sales - COGS - Capital Charges = EVA =				
Production Velocity (10 minute run plus OT)				
Number of Minutes Worked	8	8	6	4
Number of Cars Produced (sold + FG Inv)	3	4	7	3
Production Rate =	0.38	0.50	1.17	2.25
Copyright 2005 - 2007 The LeanMan, LLC				
Notes: Workers are Stockkeeper, Subassembler, Assembler, Inspector, Shipper, Conveyance				

Metrics recording is easy with the included Excel Financial Calculation program.

I'm often asked – why do all four events? Take a look at the chart above at the improvement in production rate with each incremental change. What better way to prove the concepts than to really show them?



Facilitator Notes:

The 51 page Facilitator Guide and Instruction Placemats for the four main LM simulations are on the CD and can be printed and used as is. However, it is intended that the LM simulation set be edited to focus on specific training needs. Therefore, unlike the LTS, TPS and VSM simulations, the LM simulation 51 page guide is not provided as a laminated set, and is instead provided as a PowerPoint file for you to edit and customize for your specific audience. Once the slides are adjusted to your needs, print and laminate to provide the participants with instructions. They greatly ease the apprehension of the participants to have something in front of them to read and they greatly aid the facilitator in getting the exercise started.

The LM simulation facilitator guide uses a 3-piece batch size, but feel free to adjust batch size to control the amount of time the simulation requires. The simulation can be run with any number in the batch up to five pieces; the more per batch the longer the exercise takes to perform. The concept of TAKT TIME can also be introduced between events #2 and #3 to show the effect of regulating flow with the kanban cards.

The simulation can be run with as few as 5 participants, but additional people to act as material movers (conveyance) and observers for the 10-Second Test (as defined in the Deluxe Kit) increase the number of active participants. Adding Quality Control functions such as nonconforming material reject cards; lot reject versus single item reject methods; and "rework hospital" versus in-line rework methods add to the realism of the flow. Methods that mimic the training audience's own quality methods should be used.

Having participants swap seats between each exercise is recommended to keep the learning curve consistent. Swap observers and hands-on participants between events.

Add an additional assembly person to the event to apply small (1/4 dia) Avery 05790 red and Avery 05792 yellow color dots for head and tail lights (available at OfficeMax, Office Depot or Staples)

The dots should be applied half on the end and half wrapped to the side of the car body. Doing this will make pulling them off after the event very easy. If they are applied full flat to the car body end they adhere fairly well and will require scrapping with a fingernail to remove.

Good luck in your lean endeavors.

The LeanMan

