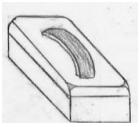
Date July 31, 2002

ONE-PAGE INFORMATION - KAIZEN No.7

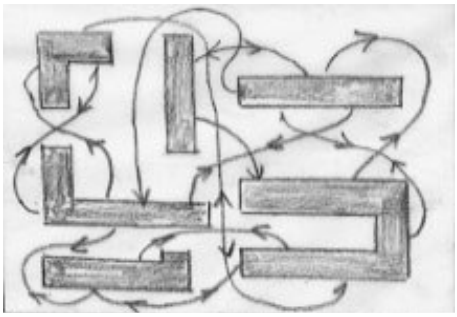
Published by S. Yoshida, GTR Institute, Toyota Japan E-mail: gtr-inst@wta.att..ne.jp



KAIZEN TOOL BOX #4--Spaghetti Chart

Taichi Ohno, who initiated Just-in-Time production system at Toyota Motor, classified Muda (Waste) into 7 kinds. He said that Kaizen is to find and eliminate those 7 kinds of Muda.

1) Muda of over-production
2) Muda of waiting
3) Muda of transportation
4) Muda of process (wrong method)
5) Muda of inventory
6) Muda of motion
7) Muda of making rejects



During the working hours, on operator keeps moving from one place to another. Please note some of his movement is value-adding in nature while the other movements are in vain and a Muda. In order to eliminate Muda of motion a Spaghetti Chart (line of motion diagram) is used.

■ Why is Toyota Motor So Strong ?

If you really want to know this question, I recommend you to read "Profit Beyond Measure" written by H. Thomas Johnson and Anders Broms.

This book explains how different the Toyota Production System is from the conventional Western system. To cut a long story short, the former is MBM (Management By Measure) and the latter, MBR (Management By Result). MBM is process-oriented and Gemba-based while MBR is result-oriented and finance-based : Both are 180° in the opposite directions, so that it's extremely difficult to understand Toyota Production System. Many American managers ask this question after they visited Toyota plant in Geogetown " We have visited shops A.B.C.& D which are similar to our plant, can we visit shop X ? We believe that is where they have something special". But there is no shop X at Toyota. There is no secret hidden.

■ Japan is the Country of Robots

Sony, Honda and Toshiba are developing so-called " Personal Robots" and putting them on sale for general use such as pets, and friends. One of the most important final destinations of personal robots is the humanoids who can work to do home choirs and to help the aged.

Robots-related patents

	Walking robots	Human Intelligence robots
Japan	89.1%	69.6%
USA	3.3%	16.3%
EU	7.6%	14.1%