

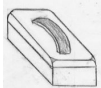
ONE-PAGE INFORMATION - KAIZEN No.15

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■ Advanced Kaizen Activities from the recent Japan Study Tour

Kaizen is endless. Many good Japanese companies have never stopped Kaizen for many years. Kaizen is not a fad and fashion. It's an on-going activities for them. Five benchmarking companies (Toyota Motor, Aichi Kikai, Gifu Body, Kubota and Daihatsu) were selected for this time. The JST participants were impressed among other things by the following points when they visited the host companies.

- 1) All companies keep the "TQC" program as the basis of Kaizen culture. ---Some Americans and Europeans think that JIT production system stands alone, nothing to do with TQC (TQM). But that is wrong.
- 2) Company top management is always supporting Kaizen by being directly involved ---Hoshin Kanri is a linkage between corporate objectives and actual Kaizen team activities.
- 3) They invest in employees training --- A Dojo, like the Dojo for Judo trainees, is set up at the plant corner for practical skill training.
- 4) QA requirement is as sever as 5 – 10 p.p.m. (part per million defect rates) --- Poka Yoke devices are installed in the manufacturing process to eject non-conforming operations.
- 5) Toyota does not use the "firing" test for engines and is using the "motoring" test instead. ---Toyota and Honda are the only two automotive companies using only "motoring" test in the world.
- 6) Toyota is using V-Comm System (Virtual Communication) to design a new car in a reduced R/D time. DFMA (Design For Manufacturing and Assembly) is now possible with this digital-virtual assembly shop in which assembly operators work together with engineers to improve product design from assembly operation point of view.
- 7) The new electronic Kanban is replacing the original Kanban at many companies.

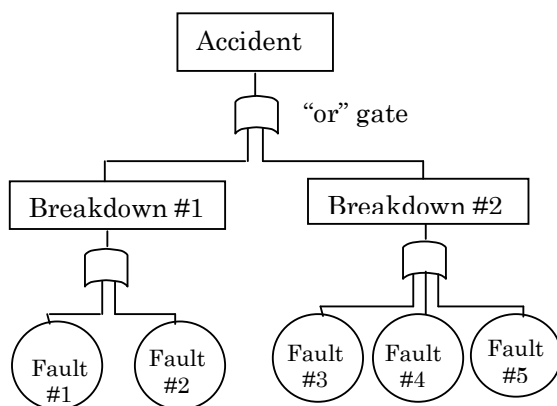


KAIZEN TOOL BOX #9---Fault Tree Analysis

We were shocked by the shuttle Columbia's disaster.

NASA announced that they will carry-out a complete investigation into root causes of the catastrophe by constructing a "fault tree" with every conceivable reason for disaster.

The fault tree is one of the most popular tools used for Quality Control. At the moment, the



foam insulation that shed off the fuel tank and impacted the left wing is just one branch of the tree, NASA reporting. This reminds me of the ill-fated Challenger calamity some 15 years ago. Dr. Feynman, a Nobel Prize physicist and chairman of the investigation team, reported that Challenger was disintegrated in the air by NASA bureaucratic management which ignored Gemba wisdom