



ZenPower International
Providing Industry Expertise To Training
www.tpmquality.com

TPM e-Book Series

Copyrighted 2005, All rights reserved.

Title: Poka Yoke Design (140 Pages)

One of the distinctive features of the TPS is the Zero defects Poka Yoke Pillar. It is also known as Mistake-Proofing or Fool-Proofing in the Western world. Behind Mistake Proofing is the conviction that it is not acceptable to produce even a single defective product. Many things can go wrong in the complex environment of the workplace; every day there are opportunities to make mistakes that will result in defective products.

Poka Yoke Design is based on the concept that since Mistakes are made by Man, it is also possible for Man to prevent them from happening. By systematically identifying all possible mistakes with Machine, Methods, Man and Materials, and designing Mistake-prevention measures, a Zero-Defect process can be achieved.

Many companies are already practicing Poka Yoke on an ad-hoc basis. But this is ineffective to achieve Zero Defects. This advanced workshop teaches a comprehensive methodology for 100% Mistake Proofing of every process in your Operations.

e-Book Description

- 140-paged e-Book Illustrated with scores of examples and actual multiple-industries experiences.
- Teaching methodology proven in scores of extremely highly-rated in-house and public seminars.
- TPM Expert's 15 years' of various Industries hands-on experiences available to you.
- Authored by Moses Tan (MSc; BIT; Dip Electr.; Dip Ed) Principal Industry Consultant of ZenPower International, Singapore.

This e-Book Learning Objectives are:

- Understand Poka Yoke concepts and designs.
- Understand how to identify all possible Mistakes in a process relating to the 4Ms – Machine, Method, Man and Materials.
- Apply a structured approach to comprehensively Mistake-Proof an entire Process.
- Understand how to build Zero Defects permanently into your own Production System.

e-Book License Price.

Corporate-Licensed e-Book (Printable with corporate-identity access password) at S\$400/= only.



Course Contents

Evolution of Poka Yoke in Ultimate Quality Control

- 1.1 What is Poka Yoke and its history.
 - 1.2 Types of Inspection Methods – Judgment, Informative and Source Inspections.
 - 1.3 The eleven categories of Mistakes.
 - 1.4 The five types of generic Poka Yoke devices and their applications.
 - 1.5 The 6-Step Poka Yoke Design process.
-
- 2 **Step 1: The QA Matrix – Mapping Your Quality Challenges.**
 - 2.1 Purpose of the QA matrix – relate defects to processes.
 - 2.2 Explanation of the QA matrix format – criticality rankings of defects by processes.
 - 2.3 Poka Yoke by Processes and NOT by defects.
 - 2.4 Case Study of a QA Matrix for a factory.
-
- 3 **Step 2: Finding All The Possible Mistakes by Machine, Methods, Man, Material.**
 - 3.1 Why Poka Yoke selected by Process not by defects.
 - 3.2 Tool used to find Mistakes– Why-Why Analysis
 - 3.3 Identify Mistakes of 4Ms causes of defects in a Process.
-
- 4 **Step 3: Addressing Mistakes Caused By Machines first – Why?**
 - 4.1 Function loss type of machine causes of defects.
 - 4.2 Function reduction type of machine causes of defects.
 - 4.3 Inspection checklist Poka Yoke for function-loss type.
 - 4.4 Time-Based Maintenance Poka Yoke for function-loss type of machine M.
 - 4.5 Precision-checklist Poka Yoke for function reduction type of machine M
 - 4.6 Completing the M-Q Matrix (Machine-Quality Matrix)
-
- 5 **Step 4: Process-Mistake flow charting for comprehensive design.**
 - 5.1 The Process-Mistake flow chart.
 - 5.2 Grouping of mistakes at process steps.
 - 5.3 Simplification of Process steps to reduce chances for Mistakes.
 - 5.6 Use of P-M Analysis to determine Optimization Factors in DoE.
-
- 6 **Step 5: Choosing and Identifying best Poka Yoke devices to Mistake Proof A Process**
 - 6.1 Case studies and examples of Mistake Proofing.
 - 6.2 Source Inspection concept – From PDCA to PDCA cycle.
 - 6.3 Types of generic Poka Yoke devices.
 - 6.3 Criteria for Poka Yoke – 3 levels of Mistake proofing.