

Lean Poster Series #14

Poka Yoke



What is Poka Yoke?

Poka Yoke, meaning 'mistake-proofing' in Japanese, is any mechanism in Lean manufacturing that helps to avoid (yokeru) mistakes (poka). Poka Yoke was developed by Shigeo Shingo at Toyota.

When and Where to Use Poka Yoke?

Poka Yoke is a technique that can be applied to any type of process in manufacturing or the service industry. It can be used wherever something can go wrong or an error can be made.

Why is Poka Yoke Important?

- If something can go wrong, it will! Poka Yoke techniques make it difficult or even impossible to make mistakes. These techniques can remove defects from products and processes and substantially improve quality.
- It helps producing processes and services that are defect-free
- It eliminates scrap and rework
- It helps reducing costs and improving customer satisfaction downstream process.

How Does Poka Yoke Work?

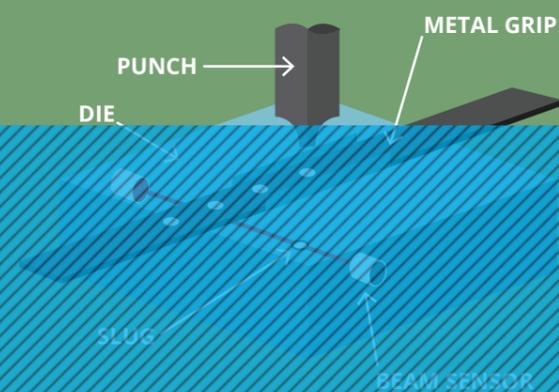
1. Identify the operation or process
2. Analyze the 5-whys and understand the ways a process can fail.
3. Choose the right Poka Yoke method
4. Choose the right Poka Yoke system
5. Trial the method and see if it works
6. Train the operator
7. Review performance and measure success.

Poka Yoke Systems

METHODS OF POKA YOKE FOR DETECTING AND PREVENTING ERRORS

SHUTDOWN

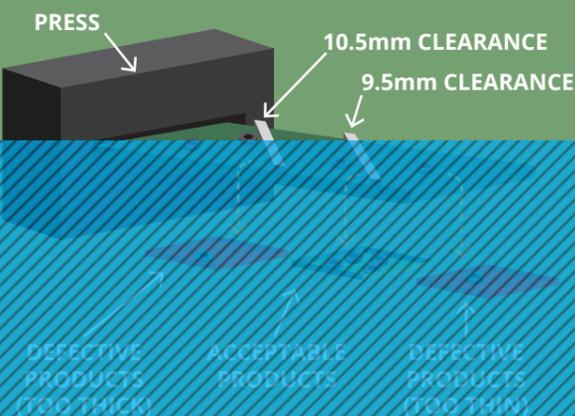
Process stops automatically when the problem occurs.



Example: Metal Stamping Machine will stop if no slug is detected.

CONTROL

Physical mechanism to prevent problem from occurring or escaping.



Example: Nut Tightener Good and bad products are sorted.

WARNING

Physical mechanism to prevent problem from occurring or escaping.



Example: ATM Finds customer to remove card.

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CONTACT METHOD

The contact method identifies product defects by testing various attributes such as shape, size, color, etc.



Example: Power plug and socket The plug can only be inserted into the socket in one way.

FIXED-VALUE METHOD

The fixed-value method alerts the operator when the number of the product, counters or optical devices.



Example: Missing Rivets Counter built into riveting machine will only release when all 8 rivets are inserted.

MOTION-STEP METHOD

The motion-step method determines defects by identifying the steps of the process that have occurred.



Example: Product Manuals Visual to point employees to the right collateral for various products.

