

Poka Yoke Assignment

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Introduction

Poka yoke or “Mistake Proofing” is a method of preventing mistakes by implementing simple, inexpensive solutions to problems that companies, teams, and/or workers face. The solution can be a simple change in process, a mechanical system that prevents the failure, or a regulatory function that alerts operators that a failure has occurred.

Poka yoke devices serve a wide range of functions ranging from saving lives to ensuring a common process is followed. For example, my workplace includes an egg packing line that requires a shipping label be placed on every box. Workers in the past would have to individually place shipping labels on every box. This manual process opened the company to failure because it would be quite easy to forget labelling a box. This would cause errors later down the manufacturing line. Recently a system was installed that scans the label of every box. If the system detects a box has passed through without a subsequent shipping label scan, the manufacturing line would stop. The stoppage allows a worker to rectify the missed label.

Poka Yoke Idea 1

Description

This poka yoke device is a simple aluminum sheet that attaches via hinges on the bottom side to the white board. The width of the aluminum sheet is dependent on the position of the white board. The white board closest to the lecture hall would be the slimmest, while the further whiteboards require a larger width sheet to bridge the gap. There is a magnetic holder on each one of the white boards to assist in storage of the device when the white board is not in use. When the white board is in use, the user will drop the aluminum sheet to bridge the gap. During this process the magnetic holder is disconnected which triggers a green light indicator.

When at least one of the magnetic holders is not in use the light displays green, if all three magnetic holders are applied then the light displays red.

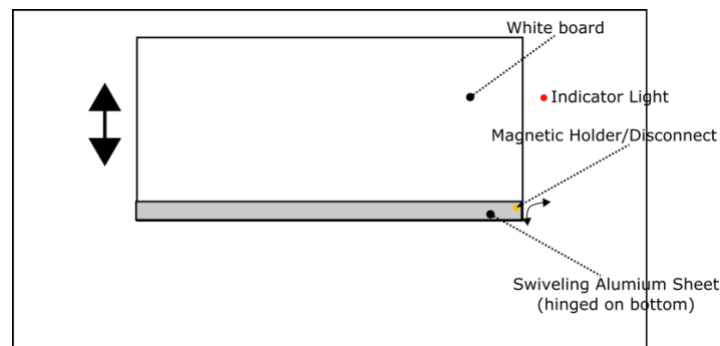
Benefits

This solution is simple and can be applied in a cheap manner. The magnetic sensor can be purchased for ~\$50 each while a simple aluminum sheet is very inexpensive. The solution eliminates waste and expense in the form of lost markers. Further it also eliminates time and frustration spent retrieving lost markers.

Classification

This poka yoke device categorizes as a control device that seeks to eliminate the failure (i.e., eliminates the opportunity for markers to fall through the slot).

Diagram



Poka Yoke Idea 2

Description

The second poka yoke idea is a much simpler idea designed to change the operator's behavior to prevent the mistake of dropping the marker in the slot. The idea is to change the storage location of the marker from the current area (right in front of the gap that swallows the markers) to an area on the wall that is not near the gap. The operator would not have the option of placing the markers in a mistake-prone storage location. Further, a centralized storage location provides a visual indication that there are markers available. If there are not markers available, a mistake has happened, and the markers must be retrieved.

Benefit

This implementation is very cost effective. The current storage location of the markers could even be reused and placed at a different location on the wall. The cost is \$0 and provides an immediate financial impact by eliminating lost markers. While the implementation of the device will not 100% eliminate the mistake from occurring (i.e., the operator could still drop the marker in the gap), it should have a tangible benefit.

Classification

This type of device would be a prevention-based poka yoke device because it would not alert the operator that an error has occurred. Rather it seeks to prevent the operator from committing the error.

Diagram

