Mistake-Proofing / Error-Proofing (Poka-Yoke)

Problem
How to mitigate potential mistakes?

Difficulty
Some training required

- **Mistake-Proofing** is identifying and correcting problems as close to the source as possible.
- Mistake-Proofing is useful for maintenance, operations, production, and servicing.

https://www.reliableplant.com/poka-yoke-31862

Implement the following principles (as applicable)

1. **Eliminate** – remove task/part that allowed errors
2. **Replace** – use a more reliable process
3. **Prevent** – change task/part to make errors impossible
4. **Facilitate** – make work easier to perform
5. **Detect** – identify & resolve before further processing
6. **Mitigate** – minimize the effects of errors

Automobile examples

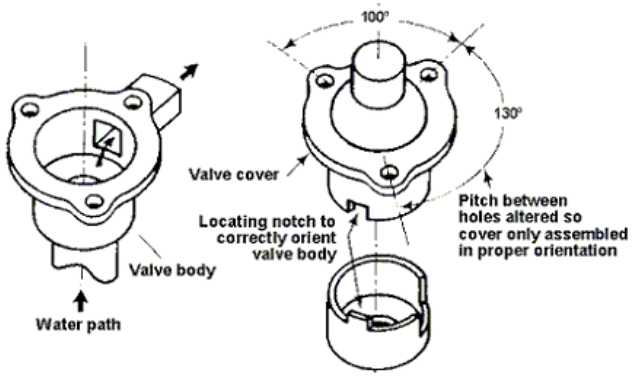
- Unleaded gas tank opening
- Gas cap tether preventing loss
- Car doors lock at 18 mph
- Car key cannot be removed unless car is in “park”

Other Examples

- Sink overflow outlet
- Elevators don’t shut doors on people
- Dryer stops when door is opened
- Opening a file drawer locks other drawers

Mistake-Proofing – Examples

Prevent – Make parts as symmetric or as anti-symmetric as possible

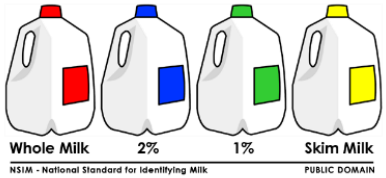


https://www.npd-solutions.com/mistake.html

Facilitate – Which dial turns on which burner?

https://www.amazon.com/Cooktop-Burners-Stainless-Kitchen-Cooktops/dp/B09957VB52

Detect – Milk containers use color to indicate fat content

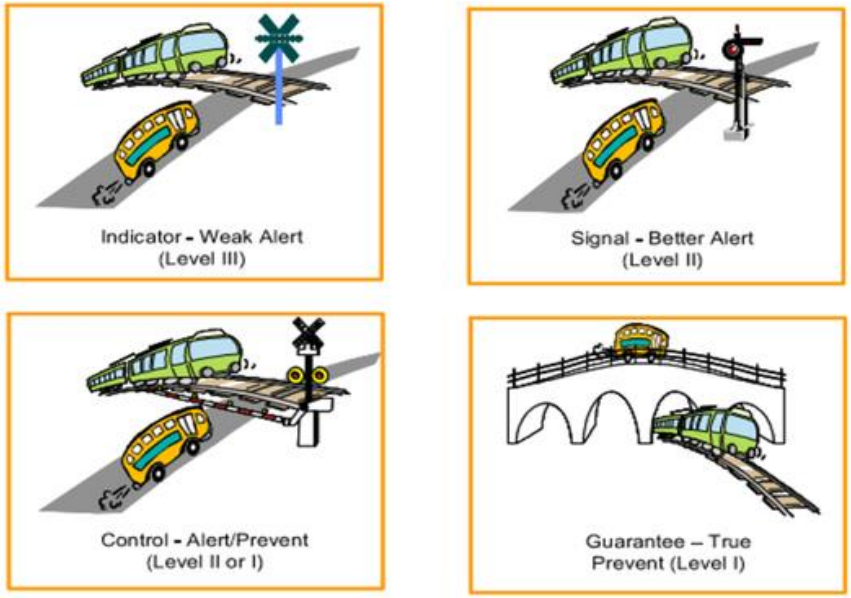


http://www.aleanjourney.com/2011/05/changing-visual-standards-causes.html

Mitigate – To insure cars will fit in a garage with a low clearance, use a go/no-go gauge at the entrance.

https://www.parkinglotsafetysolutions.com/height-guard-clearance-bars.html

Prevent – Different ways to avoid train/car collisions



https://pbs.twimg.com/media/CMog9VxWoAAjfdi.png\

Mistake-Proofing – Notes

Slide 1

1. Mistake-proofing is about creating processes where mistakes can't happen. If not possible, then the goal is to mitigate the effect of mistakes.
2. Many products have built in mistake-proofing, and we are likely not aware of it.
3. The picture shows an electrical plug which – with two equal sized inserts – can be inserted upside down; which can be bad. Making the inserts different sizes prevents the plug from being inserted upside down.
4. There are 6 standard ways to eliminate or reduce the effects of errors.
5. “Mistake-proofing” is also called “error-proofing.”

Slide 2

1. There are books of pictures showing Poka-Yoke in practice – they are fun to look at!