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

**Problem** How to mitigate potential mistakes?

### Difficulty

Some training required

moreved decign

- **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

#### 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"

	Mistake	improved design
Design paradigms	Proofing process	>
Implement the follo	wing principles (a	as applicable)
<b>1. Eliminate</b> – remov	/e task/part that all	owed errors

Mistako

- **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

#### **Other Examples**

Sink overflow outlet

Existing decign

- 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





Created by Laymik from Noun Project **Facilitate –** Which dial turns on which stove burner?

https://thenounproject.com/icon/st ove-top-1474551/

**Detect** – Milk containers can use color to indicate fat content



https://www.npd-solutions.com/mistake.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.c om/height-guard-clearance-bars.html

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

#### Prevent - Different ways to avoid train/car collisions



https://x.com/seanessee/status/633354935908888576

## 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 "errorproofing."

### Slide 2

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