

## Shigeo Shingo's development of Mistake Proofing

To understand Mistake Proofing it is important that we understand its origins in modern manufacturing operations and how it has been developed.

Mistake Proofing was initially referred to as Baka Yoke (Japanese for fool proofing) but this changed with an evolving understanding of what causes defects. As the older name implies, traditionally the blame for a defect lay with the employee that had produced it. The current Mistake Proofing philosophy, "Poka Yoke", was developed and implemented by Shigeo Shingo while working for Toyota Motor Corporation in 1961. Modern thought processes recognise that, wherever people are involved, there is a risk of errors that can cause defects. Shigeo Shingo recognised this and developed Mistake Proofing as a method for designing a process to prevent and detect these errors and thus better prepare employees and systems to achieve improved Quality, Cost and Delivery (QCD) performance.

### How Errors Become Defects

Mistake Proofing is a way of streamlining a process to eliminate wastes associated with errors. To understand the reasoning behind Mistake Proofing, we must understand how these errors affect defects and how these in turn affect the QCD performance of an organisation.

Shigeo Shingo (1986) states that;

"Defects arise because errors are made", "errors will not turn into defects if feedback and action take place at the error stage"

According to this quote, errors must be discovered and eliminated before the opportunity for them to become defects arises. It is important that we understand the cause and effect relationship between errors and defects.

A defect is any part or product not produced to the desired specification.

An error occurs when a process is not carried out correctly

Now that we can see errors are the cause of defects, we must consider causes of errors in order to Mistake Proof the process. Some common causes of error include:

- Process omissions
- Process errors (not following Standard Operations)
- Setting up error
- Missing parts
- Incorrect part used
- Machining wrong part
- Operation error (wrong specification used)
- Adjustment, measurement or dimension error
- Errors caused by badly maintained equipment
- Errors caused by incorrect or unsuitable equipment