



Errors of Commission vs Omission

Errors will inevitably occur but understanding what error is helps us get at the root of the problem

Last month we looked at Type I and Type II errors in the precision machining industry. This month we will dive into errors of commission vs omission. Understanding types of errors allows us to better understand the causes of them on our quest to eliminate all errors.

Definitions

Error of Commission. A mistake that consists of doing something wrong, such as including a wrong amount, or including an amount in the wrong place. (Cambridge Dictionary)

Error of Omission. A mistake that consists of not doing something you should have done, or not including something such as an amount or fact that should be included. (Cambridge Dictionary)

Simply put, an error of commission is the act of committing an error and error of omission results because no action was taken. Breaking this down further, both errors can be applied in a matrix of accidental and intentional. We never want to intentionally make errors, but we are humans.

and mechanical property testing. The act of using the wrong material was an error of commission. It was an unintentional error with significant impacts on downstream processes.

Consider a similar situation where a difficult job is made from pre-hardened 4140 with tight surface finish requirements and close tolerance dimensions. The print explicitly states “must be machined from pre-hardened material.” The team member is unable to achieve conforming parts, decides to order 4140 annealed then harden after machining. Parts failed in final products because process was not followed and parts did not achieve the desired level of toughness. This intentional error of commission has broken the trust between supplier and customer and could lead to legal action.

Error of Omission

A team member adjusts an offset on for a turning tool that turns multiple features to adjust the first feature of the turn. The machine continues in production later to find that other turned features are now out of spec. In this scenario

ERROR MATRIX	Unintentional	Intentional
Errors of Omission		
Errors of Commission		WE DONT WANT TO BE HERE

Error of Commission

A team member starts to setup a job and grabs the wrong material. The material for the job is 1018 steel and the material the team member is utilizing is 12L14 steel. The incorrect material was stored in the wrong place. The process involves significant subsequent cold work. After the parts have been machined, it is impossible to distinguish between 1018 and 12L14 without chemical

you can see both types of errors were committed. The adjustment of the machine was an error of commission because it created non-conforming parts because of the action of the team member. The error of omission was the inaction of not checking the other features this tool created. In this situation the root error was failing to adequately check all the features the tool cut. That omission created downstream waste. This error was also unintentional.

A more inconvenient situation would be that a team member has parts labeled and segregated at the machine. One pan has known conforming parts. The other pan has a questionable dimension. The pans are marked clearly. At shift change a team member combines the pans and fails to identify that it may contain non-conforming material. This intentional omission is an error that could cause major consequences for the customer if missed in final inspection.

Any intentional error is bad practice. We never want to make errors on purpose but, as humans, too often we have become accustomed to intentional errors of omission as practice. What they do not know will not hurt them. If we do not put up a billboard no one will ever know. Intentional errors of omission often result from unintentional errors of commission. Our customer relationships are based on effective communication. As industry leading shops we build trust through open communication. Trust is the foundation for long-term customer relationships.

Conclusion

In precision machining we are striving for perfection. We want perfect parts, shipped on time, with all stated and implied requirements fulfilled. Errors will inevitably occur but understanding what error helps us get at the root of the problem to create preventative measures to stop errors before they happen. We never want to intentionally make errors. That is not good for our customers or those around us. It creates a culture of acceptance of error. Our culture should revolve around stopping errors before they happen moving to our perfect future state of zero errors. It is an unobtainable vision but in precision machining zero errors is our goal. Striving for that perfection eliminates the need for intentional errors of omission. With zero errors there is nothing to omit. **P**

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