

## Precision Metal Molding

### The Problem

While launching a new and innovative production technology – thixomolding – which is an injected metal molding process that eliminates the need for secondary machining operations, The customer was faced with costly and time consuming development for a high volume, precision tolerance part.

### Origin’s Contribution

Origin introduced LaunchRite, an application that leverages a unique integration of statistical methods and best fit technology to dramatically reduce product development iterations, often resolving all dimensional issues in one iteration, two at most.

### The Story

After nearly a year of attempts to launch into production and experiencing repeated setbacks, the engineers were frustrated in their efforts to develop a satisfactory tool for the thixomolded bracket. Despite close collaboration with their customer, as well as the suppliers of both the precision tooling and the injected metal molding system, they had failed to achieve production signoff.

In order for the, VP Engineering to confidently take on LaunchRite, Origin proposed a “shadow project” approach whereby Origin would shadow the product development efforts of the engineering team.

Working in parallel and based on the same dimensional data, Origin derived their own unique set of recommendations using LaunchRite. It became clear to the team, that after just one iteration, Origin was able to quickly discover all the dimensional issues, accurately identify the root cause in each case, as well as predict the corrective action required on the tool.

“LaunchRite helped us resolve the issues that other technologies promised, but could not deliver”.

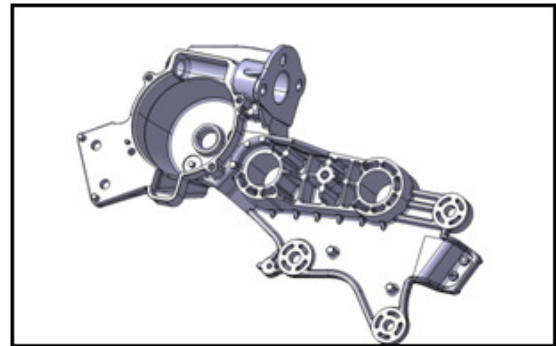


Figure 1 Injected metal (thixomolded) bracket

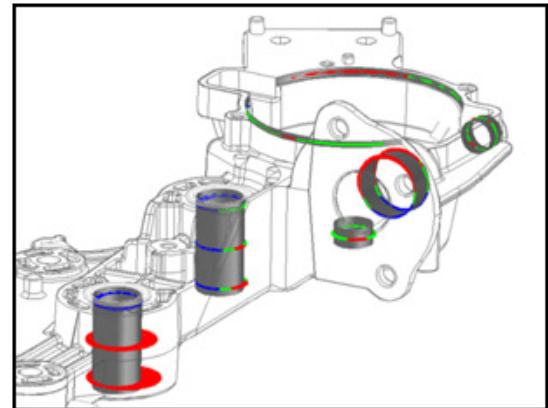


Figure 2 Issues with critical features – average of seven samples

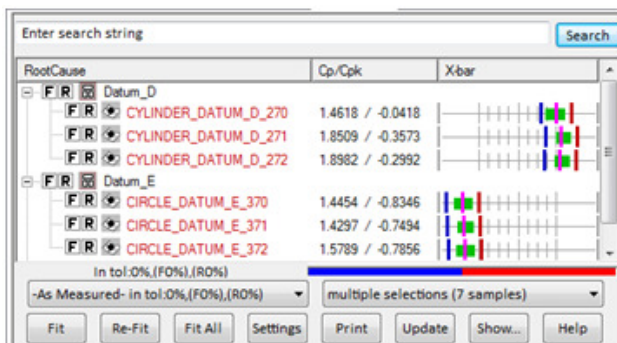


Figure 3 Process capability (Cp) and X-bar for critical

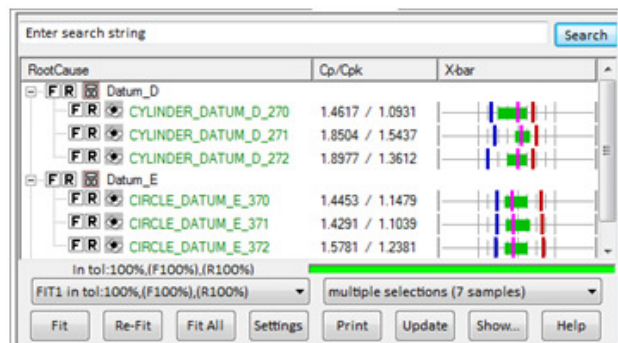


Figure 4 After simulating corrective action for each critical feature

### The Result

As a result of engaging Origin and using LaunchRite, the customer was able to finalize the buyoff for the first tool. As well, they completed the second tool in less than 25% of the time taken to launch the original. With significantly less development iterations, their second tool was also much more robust than the original

