

Advanced Techniques for Modeling Robustness

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Premium Partners:



Microsoft

Callaway Golf – Who we are

- Callaway History
- Product brief
- UGS user since 1998
- Highly integrated TeamCenter/NX workflow

Callaway Golf - Background

- Callaway Golf Video

Callaway Golf – Master Model Concept

The Master Model Environment

- “Child” parts created through use of the NX spreadsheet

(show spreadsheet)

Callaway Golf – Master Model Concept

The Master Model Environment

- Each “child” has unique characteristics such as loft, weight distribution, and face angle
(insert jpg's of varying lofts, weighting, and face angle)

Callaway Golf – Model Robustness

- It is **CRITICAL** for our models to be robust in order to meet design schedules.
- There are ways to work around certain model failures after a spreadsheet update and increase the model robustness for the next spreadsheet update.

Callaway Golf – Model Robustness

This presentation will show how Callaway Golf encountered 3 model failures during a spreadsheet update and how we were able to workaround these failures to create a more robust model.

- Use of Trim/Extend to replace Trim Curve
- Tolerance adjustment for Through Curve Mesh
- Use of Knowledge Fusion to correct Bridge Curve “flipping”

Callaway Golf – Trim Curve vs. Trim/Extend Demo

Trim Curve vs. Trim/Extend demo

Callaway Golf – Tolerance adjustment demo

Tolerance adjustment demo

Callaway Golf – Use of KF to solve bridge curve “flipping”

Demo of KF adoption of bridge curves to solve “flipping problem”