

Agenda

*Presented by Presented
by Robert C. Hoffman, Jr., P.E.*

Introduction to Component Tolerance Analysis

- What is component tolerance analysis (stack-ups)
- Where the tool applies
- Benefits of the tool
- Overview of dimensional tolerance analysis types

Dimensional Tolerance Analysis

- Definitions
- Worst case method
- Statistical methods
- Software packages
- Method comparisons

Applying Dimensional Tolerance Analysis

- Dimensional tolerance analysis methodology
- How tolerance selection impacts manufacturing process selection
- How geometric dimensioning and tolerancing (GD&T) integrates with tolerance analysis
- Component dimension tolerance trade offs

Summary

- Do's and don'ts when using this tool
- Determining the appropriate analysis approach for an organization
- Organizational control of dimension tolerance analysis results

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Introduction to Component Tolerance Analysis
Ann Arbor, MI - Thursday, July 26, 2018

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Learning Objectives

You'll be able to:

Understand how to reduce costs by addressing issues such as components not consistently fitting together during assembly of the product, and unstable product safety that drives litigation costs.

Learn about the different dimensional tolerance analysis types and how to perform component tolerance analysis.

Gain an understanding of dimensional tolerance analysis methodology.

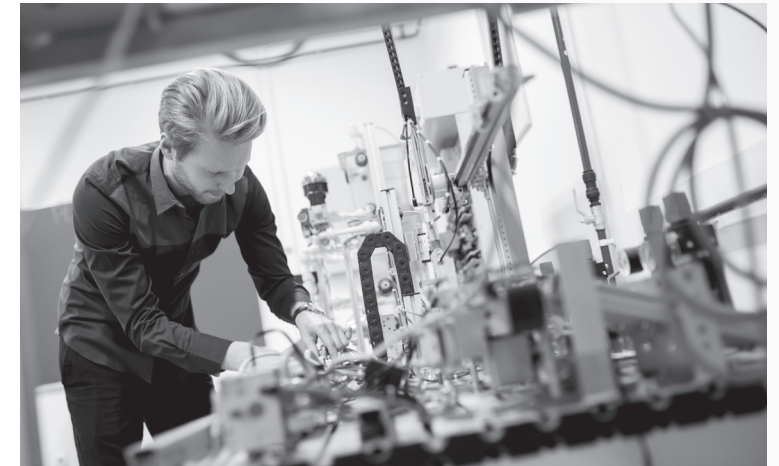
Determine the appropriate analysis approach for your organization.

Understand the do's and don'ts when using this tool.



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Provide a broad overview of component tolerance analysis as it applies to all areas of design, including: electro-mechanical consumer products, automotive industry, component manufacturers, etc.

Gain a foundational understanding of how the component tolerance analysis tool can be used to identify critical component relationships

Learn how to use the tool to improve customer satisfaction by producing more consistent product

Determine the tolerance analysis strategy which best fits your particular need to maximize the benefits this tool offers

Continuing Education Credits

This seminar offers 7.0 continuing education hours/PDHs to professional engineers.



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Faculty

Robert C. Hoffman, Jr., P.E., *Creative Product Solutions, LLC, Coloma, MI*

Mr. Hoffman received his Mechanical Engineering degree from Michigan Technological University (MTU). He studied solid mechanics including stress, fatigue, mechanism design, and vibrations. Mr. Hoffman has 33 years of experience in both the automotive and consumer products fields. His experience includes extensive use of simulation-based design tools, design of electro-mechanical sub-systems and system level optimization through sequential learning using design of experiments (DOE). Mr. Hoffman also has experience with the reduction of performance variation using component of variation (COV) studies as well as all aspects of testing and production approval of electro-mechanical products including safety, performance, reliability, and quality. He has detailed knowledge of manufacturing processes including stampings, castings, injection moldings, and machining. Mr. Hoffman is a registered professional engineer in the state of Michigan and was trained and certified as a certified statistical black belt from Six Sigma Associates. He is also certified as a master in forced failure testing and certified as a master in product safety at Whirlpool based on the formal training received at that company.

Seminar Information

Courtyard by Marriott Ann Arbor
3205 Boardwalk Drive
Ann Arbor, MI 48108
(734) 995-5900

Tuition
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\$259 for three or more simultaneous registrations.
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Additional Learning

Webinar Series

HVAC Series

- **Heating, Ventilation and Air Conditioning Principles**
Thurs., June 7, 2018, 11:00 AM - 1:00 PM CDT
- **HVAC System Design Considerations**
Thurs., June 7, 2018, 1:30 - 2:30 PM CDT
- **Evaluating HVAC Systems and Equipment**
Fri., June 8, 2018, 11:00 AM - 12:00 PM CDT
- **HVAC System Controls and Techniques**
Fri., June 8, 2018, 12:30 - 2:30 PM CD

Introduction to Vibrations

- **Introduction to Vibrations**
Thurs., June 14, 2018, 11:00 AM - 1:00 PM CDT
- **Eigenvalues, Eigenvectors and Motion**
Thurs., June 14, 2018, 1:30 - 3:00 PM CDT
- **Analysis and Test Methods**
Fri., June 15, 2018, 11:00 AM - 12:30 PM CDT
- **Designing for Vibration and Failure Analysis**
Fri., June 15, 2018, 1:00 - 2:30 PM CDT

For more information visit:
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Continuing Education Credit Information

This seminar is open to the public and offers 7.0 continuing education hours (PDHs) to professional engineers in all states. Educators and courses are not subject to preapproval in Michigan.

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Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

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Pedestrians and Bicycle Transport Planning

- **Introduction to Current Conditions and Trends in Biking and Walking**
Thurs., June 21, 2018, 11:00 AM - 12:30 PM CDT
- **Engineering and Infrastructure: Design for Walkability and Bikeability**
Thurs., June 21, 2018, 1:00 - 2:30 PM CDT
- **Developing a Walking and Biking Plan, Part I**
Fri., June 22, 2018, 11:00 AM - 12:30 PM CDT
- **Developing a Walking and Biking Plan, Part II**
Fri., June 22, 2018, 1:00 - 2:30 PM CDT

Structural Forensic Engineering

- **Introduction to the forensic Engineering Process**
Thurs., June 28, 2018, 11:00 AM - 1:00 PM CDT
- **Causes and Failures and the Forensic Engineering Report**
Thurs., June 28, 2018, 1:30 - 3:30 PM CDT
- **Forensic Examination of Structures and Use in Litigation**
Fri., June 29, 2018, 11:00 AM - 1:00 PM CDT

Registration

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Complete the entire form. Attach duplicates if necessary.	Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.
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Tuition

() **I will be attending the live seminar.** Single Registrant - **\$279.00**. Three or more registrants from the same company registering at the same time - **\$259.00** each.

() **I am not attending.** Please send me the CD manual package for **\$289.00**. (S&H included. Please allow five weeks from seminar date for delivery)

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