



PRECISION
IS THE ENGINE
THAT DRIVES
RELIABILITY

Our Customers

"We are using CETOL for all of our powertrain tolerance analysis within the Chrysler group... In fact the new Phoenix engine and the new axle program tolerance specification development is done with the aid of the CETOL software. The Sigmatrix CETOL product fits very well within our DFSS (Design for Six Sigma) process at the tolerance design/ allocation and optimization phase."

Praveen Gomer
Powertrain Dimensional Management
DaimlerChrysler

BAE Systems	Polaris
Bosch	Raytheon
Caterpillar	Roche
Chrysler	Sandia Nat'l Labs
Covidien	Schlumberger
Cummins	St. Jude Medical
Detroit Diesel	Stanley
Diebold	Stryker
Eaton Electrical	TetraPak
Emerson	Toyota
Ericsson	TVS Motors
GE	Tyco Electronics
Goodrich	U.S. Army
Honeywell	Volkswagen
John Deere	Volvo
Motorola	Whirlpool
Northrup	Xerox
Paccar	

Tolerance Management Drives PLM Reliability

Delivering quality products on time and maximizing profit requires very precise, efficient analytical tools that take advantage of the **SolidWorks** model information. Product analyses must become comprehensive as the design matures through the PLM process. For tolerance management, this maturity evolves from conceptual functional interfaces and critical datum references, to accurate, well-defined acceptance criteria for parts, assemblies, tooling, and inspection processes.

The Need for Precision

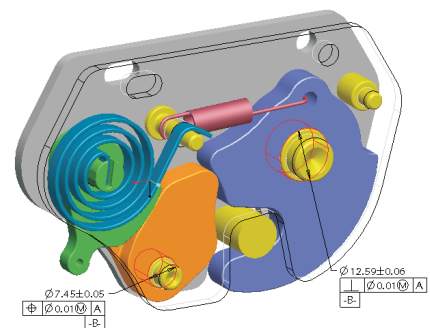
- Most companies recognize the need for better tolerance-optimization tools and processes.
- Most companies want the most precise understanding of how tolerance specifications and manufacturing variations impact product quality.
- Most companies desire highly integrated solutions with their current CAD system.
- Most companies are limited by the difficulty in conducting reliable tolerance analysis on projects.

CETOL 6 v8.0 has been reengineered to address these needs.

CETOL 6 Key Benefits

CETOL 6 provides product development teams with the insight required to confidently release designs to manufacturing. Precise calculation of surface sensitivities exposes the critical-to-quality dimensions in the assembly. Utilizing advanced mathematical solutions, CETOL accelerates tolerance optimization to achieve robust designs ready for manufacturing.

- Accelerate product quality maturity and promote engineering best practices throughout the PLM process.
- Produce the most accurate, comprehensive, reliable answers using **SolidWorks** geometry.
- Improve product quality and gain design insight by understanding the true, derived relationship between critical product requirements, and design input variables.
- Reduce modeling time and increase confidence of simple-to-complex analyses.
- Optimize design and manufacturing goals rapidly without resolving the analysis.
- Assess and manage the "as-manufactured" product quality using supplier capability data.
- Drive knowledge transfer and achieve maximum productivity with model reuse.
- Easily communicate results via advanced reporting tools, interactive analysis visualization, and true sensitivity animation.





Modeling Accuracy

Complex problems require complex solutions. Being able to model and analyze complex problems quickly and accurately is a necessity. Without an easy-to-use interface, assembly analyses can take weeks to model. We understand that an accurate assembly model is critical to predicting the variation of assembly requirements. Sigmatrix CETOL 6 assembly modeling tools deliver complete control over the behavior of your assembly model at each interface. The end result is faster development of higher quality products at a lower cost.

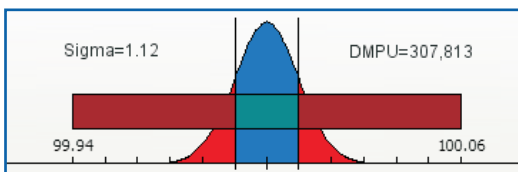
CETOL 6 Version 8.0

Software Highlights for Version 8.0

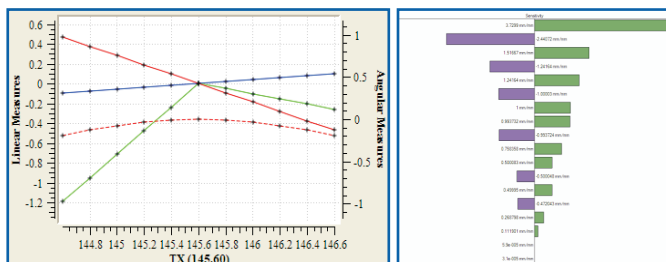
- Advanced assembly modeling technologies
- Tolerance Model Advisor™
- True sensitivity animation
- Active object control
- Advanced network model graph
- Model templates for analysis reuse
- **SolidWorks** highlight from all CETOL interfaces
- Flexible data storage—no data integrity loss
- Direct export to .html or .csv files
- Advanced reporting and interrogation tools
 - Rapid “what-if” without resimulation
 - Interactive analysis visualization
 - Clean, organized, and highly interactive
 - Report creation wizard
 - WYSIWYG reporting

Easily Model Assembly Variation with CETOL 6 Technologies

6 ✓ Results are Accurate and Reliable

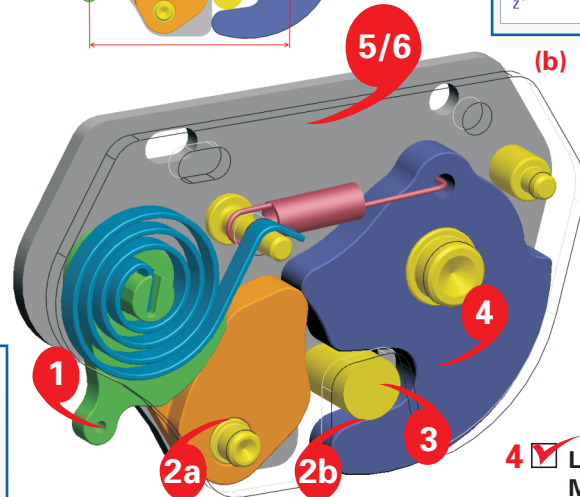
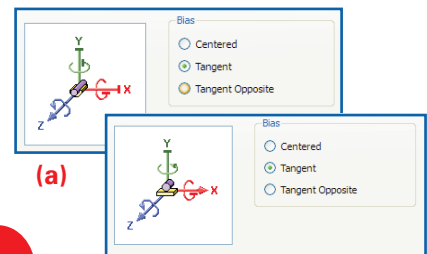
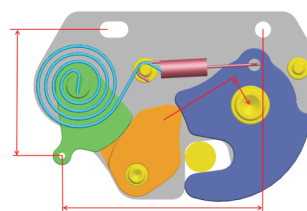


5 ✓ Sensitivity Animation and Sensitivity Tornado Chart



2 ✓ Complex Kinematic Relationships

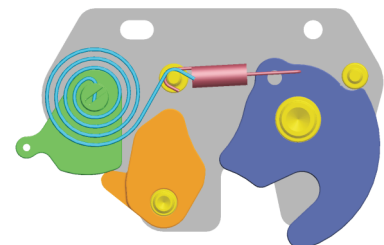
1 ✓ Precise Measurement



3 ✓ Closure—True Nominal



4 ✓ Latch Open—Solve Multiple Configurations



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