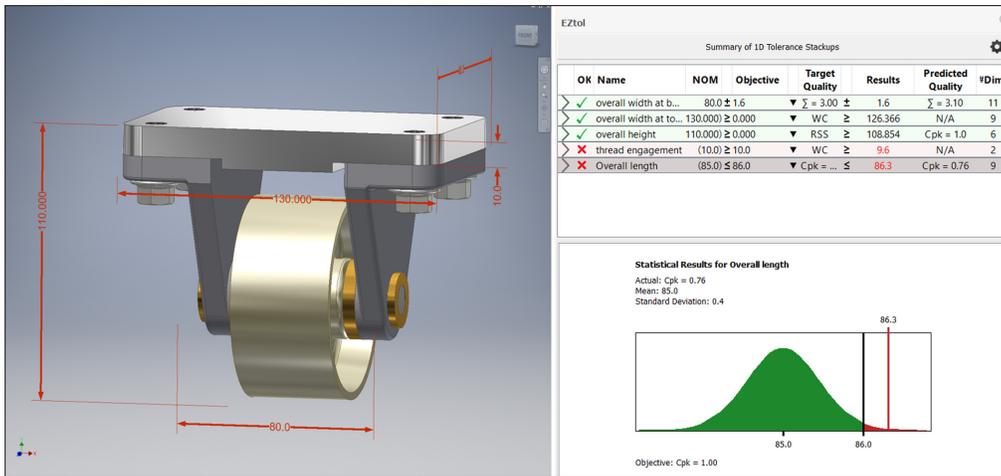


EZtol TOLERANCE STACKUP ANALYSIS

Tolerance stackup analysis made easy!

EZtol is a 1-Dimensional tolerance stackup analysis program designed to assist in understanding the impact of the accumulation of part-level dimensional variation and part-to-part assembly variation sources and the impact that they have on assembly-level requirements.

Today such analyses are performed in a spreadsheet, most commonly Microsoft® Excel®. Much work is required in creating spreadsheets that manage all of the product requirements simultaneously with consideration of common dimensions and tolerances that feed each one, properly including the impacts of the more complex geometric tolerances, and properly calculating the statistical results. Analysis spreadsheets often include a visual diagram either from the model or an assembly-level drawing to help explain the components of each of the analyses, but these too must be maintained as updates are made.



Oftentimes all the work creating these spreadsheets doesn't reveal the full story because a 1-dimensional stackup analysis may under-predict the actual assembly-level variation. EZtol helps you see the full story. The software warns if the tolerance stackup is not 1D in nature with a note that the results provided may underestimate the actual variation that will occur during production.



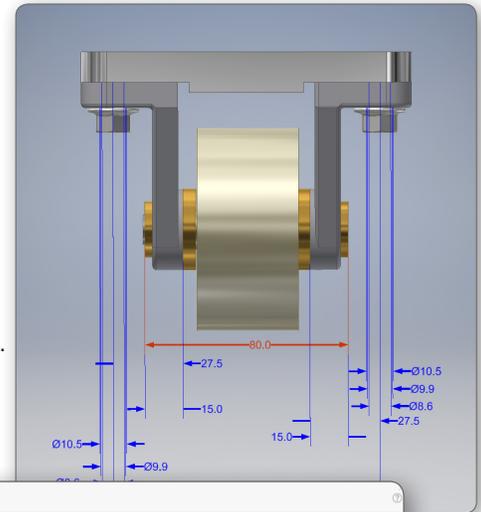
Who benefits from EZtol?

-  Mechanical Product Design Engineers
-  Mechanical Designers tasked with CAD modeling activities
-  Mechanical Sustaining Engineers
-  Quality Assurance Engineers
-  Industrial Engineers

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Software Highlights

- Builds the analysis on top of the 3D design model:
 - a. Uses the actual nominal distances between surfaces/features from the design
 - b. Helps to ensure all components in the loop are included
 - c. Shows the optimum dimensioning scheme for the single analysis
- Automatically calculates the worst-case, RSS, and statistical results of the analysis. Metrics for statistical results can be reported as: Cpk, Sigma, DPMO, or %Yield.
- Lists of contributors sorted from largest to smallest.
- Define multiple tolerance stackup analyses on the same model.
- Provides a summary table showing the objectives and results of each stackup analysis along with a visual indication of whether the requirement has been met.
- Stores the dimensions, with tolerances, defined for each part so that the user doesn't have to re-enter them for each loop. This also allows the automatic updating of all analyses when the user makes a modification to a tolerance used in multiple analyses.
- Generates detailed report with graphical view of the dimension loop over the models involved and a graphical presentation of results and the top contributors.
- Provides an indication that the tolerance stackup may not be 1D in nature including a note that the results provided may underestimate the actual variation that will occur during production.
- Doesn't utilize CAD license to work with CAD models.
- **Works with files from most major CAD systems!**



EZtol

overall width at bushings details

Name	Sens	Value	Tolerance	Datum
bushing:2				
outer face				
width of smaller dia	+1	15.0	±0.2	
B				
support arm:2				
B				
from mount hole to bearing face	-1	27.5	±0.9	B
clr hole	+½	Ø10.5	±0.5	
Asm shift clr hole-Shaft5	+1	0	±0.3	
HEX_FLANGE_SCREW-import:3				
top plate:1				
Hole6	0	(Ø8.6)	±0.5	
Distance between tapped holes		105.0	±0.5	
Hole7	0	(Ø8.6)	±0.5	
HEX_FLANGE_SCREW-import:2				
Asm shift Shaft5-clr hole	+1	0	±0.3	
support arm:1				
clr hole	+½	Ø10.5	±0.5	
from mount hole to bearing face	-1	27.5	±0.9	B
B				
bushing:1				
B				
width of smaller dia	+1	15.0	±0.2	
outer face				
overall width at bushings		80.0	±1.4	Σ = 2.02
Objectives		80.0	±1.0	Σ = 3.00

