



---

# Contents

<i>Preface</i>	<i>iii</i>
1. Background	1
2. Dimensioning and Tolerancing	15
3. Tolerance Format and Decimal Places	27
4. Converting Plus/Minus Dimensions and Tolerances into Equal Bilaterally Toleranced Dimensions	33
5. Variation and Sources of Variation	43
6. Tolerance Analysis	51
7. Worst-case Tolerance Stackups	61
8. Statistical Tolerance Stackups	105
9. Geometric Dimensioning and Tolerancing (GD&T)	137
10. Converting Plus/Minus Tolerancing to Positional Tolerancing and Projected Tolerance Zones	201
11. Diametral and Radial Tolerance Stackups	215
12. Specifying Material Condition Modifiers and Their Effect on Tolerance Stackups	225
13. The Tolerance Stackup Sketch	233
14. The Tolerance Stackup Report Form	249
15. Tolerance Stackup Direction and Tolerance Stackups with Trigonometry	287
16. Putting it All Together: Tolerance Stackups with GD&T Solved Using the Advanced Dimensional Management Method	329

17. Calculating Component Tolerances Given a Final Assembly Tolerance Requirement	367
18. Floating-Fastener and Fixed-Fastener Formulas and Considerations	373
19. Fit Classifications	389
20. Form Tolerances in Tolerance Stackups	393
<i>Index</i>	429