

Contents

<i>Preface</i>	<i>page</i> ix
1 Introduction: Before the Beginning	1
2 The Beginning: The Wright Brothers and Their Design Process	10
3 Setting the Gold Standard: The Design Methodology of Frank Barnwell	44
4 Products of the First Design Revolution: Arthur Raymond and the DC-3	68
5 Design for Speed: R. J. Mitchell and the Spitfire	116
6 Design Perfection: Edgar Schmued and the P-51 Mustang	156
7 Defying the Limits: The Jet Airplane, the Second Design Revolution, and Kelly Johnson	187
8 Airplane Design and the Grand Designers: The End Game	282
<i>Appendix A: Calculation of Change in Maximum Velocity of the Spitfire: Elliptic Wing versus a Straight Tapered Wing</i>	289
<i>Appendix B: Thrust Available: Comparison of a Piston Engine/Propeller Combination with a Jet Engine</i>	293
<i>Index</i>	297