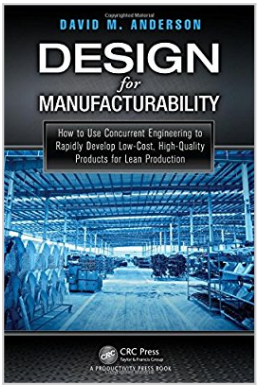

Design for Manufacturability: How to Use Concurrent Engineering to Rapidly Develop Low-Cost, High-Quality Products for Lean Production

By David M. Anderson

Design for Manufacturability: How to Use Concurrent Engineering to Rapidly Develop Low-Cost, High-Quality Products for Lean Production By David M. Anderson

Design for Manufacturability: How to Use Concurrent Engineering to Rapidly Develop Low-Cost, High-Quality Products for Lean Production shows how to use concurrent engineering teams to design products for all aspects of manufacturing with the lowest cost, the highest quality, and the quickest time to stable production. Extending the concepts of *design for manufacturability* to an advanced product development model, the book explains how to simultaneously make major improvements in all these product development goals, while enabling effective implementation of Lean Production and quality programs.

Illustrating how to make the most of lessons learned from previous projects, the book proposes numerous improvements to current product development practices, education, and management. It outlines effective procedures to standardize parts and materials, save time and money with off-the-shelf parts, and implement a standardization program. It also spells out how to work with the purchasing department early on to select parts and materials that maximize quality and availability while minimizing part lead-times and ensuring desired functionality.

- Describes how to design families of products for Lean Production, build-to-order, and mass customization
- Emphasizes the importance of quantifying all product *and* overhead costs and then provides easy ways to quantify total cost
- Details dozens of design guidelines for product design, including assembly, fastening, test, repair, and maintenance
- Presents numerous design guidelines for designing parts for manufacturability
- Shows how to *design in* quality and reliability with many quality guidelines and sections on mistake-proofing (poka-yoke)

Describing how to design parts for optimal manufacturability and compatibility with factory processes, the book provides a big picture perspective that emphasizes designing for the lowest total cost and time to stable production. After reading this book you will understand how to reduce total costs, ramp up quickly to volume production without delays or extra cost, and be able to scale up production rapidly so as not to limit growth.

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Editorial Review

About the Author

Dr. David M. Anderson, P.E., is the world's leading expert on using concurrent engineering to design products for manufacturability. Over the past 27 years presenting customized in-house DFM seminars, he has honed these methodologies into an effective way to accelerate the real time-to-stable-production and significantly reduce total cost.

His book-length website, www.HalfCostProducts.com, presents a comprehensive cost reduction strategy consisting of eight strategies. DFM is a key half-cost strategy because it supports most of the others. Dr. Anderson shows clients how to apply these strategies for cost reduction, ranging from half cost to an order of magnitude, which he teaches in customized in-house seminars, workshops, and design studies to generate innovative breakthrough concepts.

In the management of technology program at the University of California at Berkeley, he wrote and taught the product development course twice. He wrote the opening chapter in the sixth volume of the *SME Tool and Manufacturing Engineers Handbook*. His second book on mass customization, *Build-to-Order & Mass Customization: The Ultimate Supply Chain Management and Lean Manufacturing Strategy for Low-Cost On-Demand Production Without Forecasts or Inventory*, is described in Appendix D.

Dr. Anderson has more than 35 years of industrial experience in design and manufacturing. For seven years, his company, Anderson Automation, Inc., built special production equipment and tooling for IBM and OCLI and did design studies for FMC, Clorox Manufacturing, and SRI International. As the ultimate concurrent engineering experience, he personally built the equipment he designed in his own machine shop. He has been issued four patents and is working on more.

Dr. Anderson is a fellow of ASME (American Society of Mechanical Engineers) and a life member in SME (Society of Manufacturing Engineers). He is a certified management consultant (CMC) through the Institute of Management Consultants. His credentials include professional registrations in mechanical, industrial, and manufacturing engineering and a doctorate in mechanical engineering from the University of California, Berkeley, with a major in design for production and minors in industrial engineering, metalworking, and business administration.

Dr. Anderson can be reached via email: anderson@build-to-order-consulting.com. His websites are www.design4manufacturability.com and www.HalfCostProducts.com.

Users Review

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