



BOOTHROYD DEWHURST

Spring 2007

dfma[®] Insights

News from the Frontlines of **DESIGN FOR MANUFACTURE AND ASSEMBLY**



Stoking the DFMA Campfire

Sitting around a fire, staring into the flames, and talking about the day has to be one of the oldest traditions in human history. We can only imagine the problems our ancestors kicked around their campfires, talking over solutions while the embers faded and sleep beckoned. I like to picture the guy who can't resist getting up to poke at the coals, trying to get the flames to burn brighter for just a bit longer.

To me, it doesn't seem like such a stretch to compare this image with what goes on in every DFMA workshop. Groups of people gather around the product design to discuss the intricacies of manufacture and assembly. Open communications, fostering of ideas, and an objective approach to data usually lead to the best solutions.

This year's biggest DFMA campfire experience happens June 19-20 at our 2007 International Forum on Design for Manufacture and Assembly. You can learn more about it by clicking [HERE](#). I'll look for you in the circle.

Best regards,

Nick Dewhurst

Executive Vice President

DFMA Forum: an eye opener!

By Anthony Lockwood, Editorial Director, Desktop Engineering

Boothroyd Dewhurst, the developer of Design for Manufacture and Assembly (DFMA) methodologies and software tools, will host its 22nd Annual International Forum on DFMA June 19 to 20, in Providence, Rhode Island. I hope to see you there. The DFMA Forum is one of a handful of events that truly earns the description "An Eye Opener."

Why do I say that?

Well, for one, the sponsors have championed a disciplined approach to product development for more than 25 years. They know what they're doing. Their DFMA software and services enable you to understand product cost from the start and at any time during your product development cycle. But this is more than just about managing costs. Boothroyd Dewhurst helps you reduce costs while building higher quality products. You can analyze your assumptions and explore alternatives at the beginning of the process, rather than later when the cost of changes rises exponentially.

For two, the DFMA Forum is where you can get the insights that will lead you to the solution of a seemingly intractable challenge in your product development process: How can I control the costs my designers model into my products and unleash their creativity at the same time?

As you well know, the paradox of the technology revolution is that all our high-speed technology makes it more efficient to be inefficient. Nowhere is this more apparent than in product design, where it is easy to quickly model and optimize stuff that actually undercuts your profit potential by jacking up manufacturing and assembly costs one extra bolt, one unneeded layer of complexity, and one more assembly hour at a time.

The problem is not that your engineers ignore fiduciary responsibilities. It's that most lean manufacturing initiatives ignore designers because mythology has it that creativity withers under systematization. And your designers do not have access to timely data and definitive knowledge bases that will help them simplify designs, identify alternative materials, and develop products that are easier to manufacture and assemble... To read the rest of this editorial please click [HERE](#).





DFMA Forum News

You are warmly invited to attend the 2007 International Forum on DFMA, coming up on June 19-20 at the Crowne Plaza Hotel, Providence-Warwick, RI. For the twenty-second year, product developers from multiple industries all over the world will gather to discuss how DFMA helps them solve their toughest cost-reduction challenges. Deere & Company, TRW Automotive, Tellabs, Solectron, Trane, and Bose lead the list of presenters. The conference focus is "Dialogue and Design: Working Together to Develop Cost-Effective Products," so you can expect plenty of opportunity for networking and conversation. A keynote by Rainer Gawlick of SolidWorks is featured. For more information, please click [HERE](#).

DFMA News Briefs

Editor Austin Weber of Assembly assesses cost risks and rewards for manufacturers in an article called "Automation vs. Outsourcing." Nick Dewhurst comments extensively on the importance of analyzing product costs before making any decisions about automation approaches, offshoring, or capital investment. "The central issue to automation and outsourcing is whether or not manufacturers really understand their product cost drivers," he says. "When those costs are not correctly measured, it is hard to create realistic strategies for improvement." Other experts quoted are from Bosch Rexroth, Sortimat Technology, Fanuc Robotics, and Bodine Assembly and Test Systems. To read the article, please click [HERE](#).

Boothroyd Dewhurst is included in "On-Demand Supply Management: World Class Strategies, Practices and Technologies," a valuable new book authored by Douglas A. Smock, Robert A. Rudzki, and Stephen C. Rogers (J. Ross Publishing, 2007). Chapter 10, titled "Should Cost – From Spreadsheets to Science," explains how DFMA software works and describes cost-reduction results achieved at Ford, Harley-Davidson, and Dell. The authors quote Nick Dewhurst on how companies can get a 50 percent reduction in product cost. The chapter ends by discussing a 2004 white paper by Dewhurst and David G. Meeker that assesses the true cost effects of outsourcing U.S. manufacturing to China. To learn more about the book, which is packed with practical industry examples, please click [HERE](#).

A design engineer "can design more waste into a value stream in one afternoon than a sea of lean thinkers can take out in a lifetime." So claims Mike Shipulski of Hypertherm in an entertaining and insightful article for Assembly called "Successful Design for Assembly." Follow Mike's six-step approach to smart product design. To read the article, please click [HERE](#).

DFMA at Bayer

Recently, Bayer Healthcare used DFMA to redesign a lancing device for self-testing blood glucose. The software was part of Bayer's Design for Six Sigma (DFSS) implementation. The original design had 15 components and required 90.87 seconds to assemble. DFA analysis identified five components that could be eliminated, reducing assembly time to 54.05 seconds. "Based on preliminary quotations for manufacture of a new lancing device with reduced part count and fewer secondary operations, cost savings of at least \$750,000 are expected."

Excerpted from "DFSS for a Lancing Device," a paper presented at the 2006 DFMA Forum by Tieming Ruan and Gary Shaffer of Bayer HealthCare. Download the original paper now by clicking [HERE](#).

Minimum Part Count

We have a Winner!

Congratulations to Bill Devenish, who won an Apple iPod nano for taking the pop quiz announced in last winter's newsletter. Bill, who is a manager of advanced mechanical development at the Harris Corporation in Rochester, New York, says that participating in a BDI-run DFMA workshop helped him with the quiz. "We set up training for thirty of us," he says, "with cross-functional teams that included engineers, supply chain, and manufacturing people all represented on the team." Bill took the quiz shortly after completing his training session.

Bill is part of a multi-disciplinary core team at Harris Corp. that promotes DFMA within the organization. They use the software for design analysis and for benchmarking competing products.

Worth Reading

Mechanical Engineering, "The Teardown Artist," Aug 06. Michael Abrams piece on Dave Meeker: To read the article, please click [HERE](#).

Jamie Flinchbaugh byline in March issue of Assembly: To read the article, please click [HERE](#).

Solectron priceberg byline in Oct 2006 Electronics Supply & Manufacturing: To read the article, please click [HERE](#).