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MARGINAL

Nuts, Bolts & Paper Cuts

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While death by guillotine may be more dramatic, for most, the decline to the end is more a case of death by paper cuts, a small, painful, inexorable series of events that has the same consequence of the *whooshing* blade. Because we often think in terms of Big Problems, we tend to look toward Big Ideas to answer them. So people (and I include myself in this category) talk about Lean. Agility. Six Sigma. Creativity. Big Undertakings for the Big Problems of competitiveness. Sometimes people actually make these Big Initiatives work. But what about the cases where there is more heat than light, more speeches than specifics, where there's Big Talk and Little Action? What about the instances—which, I would argue, are pervasive—in which there are a series of niggling problems that eventually aggregate into Big Ones—problems that are manageable and correctable because they are small, yet not addressed because they are diminutive, not the stuff of Grand Programs? What about the paper cuts? It occurred to me that there are often these small things that get overlooked talking with Dave Archer, president of Archetype Joint (Orion, MI; www.archetypejoint.com). His area of interest is assembly. Fasteners, in particular. Yes, nuts and bolts. The basics. The fundamentals. Not the sort of thing that those thinking Big Thoughts in their Big Offices are likely to have Big Ideas about. Yet Archer pointed out something that is easily overlooked: in automotive final assembly, about *two-thirds of the parts and half the labor are related to fastening.* Despite that, fasteners and fastening aren't considered all that much. "Joints are underappreciated," he says, explaining, "People chase Bills of Materials, of which fasteners are about 5%, which no one chases." People are looking for the Big Hits.

Yet think about it: Where do many of those squeaks and rattles that bring people into the dealership service departments come from? Squeaks and rattles that, not insignificantly, give rise not only to warranty costs, but which lead to poor J.D. Power ratings, and consequent poor sales. Nuts and bolts. Not necessarily Big Problems. Not the stuff of Big Ideas. But potentially devastating nonetheless. Archer suggests that this problem may become more exacerbated as OEMs phase out their fastening engineers and shutter their test labs: *The Tier One suppliers can handle that stuff, right? We've got the Big Ideas to implement.* Cut-cut-cut-cut-cut. A loose fastener here; a paper cut there. It all adds up to doom in the long run—and that run is getting shorter with increasing competition.

Archer says that the auto industry has historically been good vis-à-vis other industries when it comes to an understanding of joint design, but he also says that in many cases there are problems that have fixes that are far more costly and ineffective than they could be. To be sure, he believes that quality is designed into a part from the start and that when it comes to joints, this requires the involvement of design and manufacturing personnel to devise the best solutions. But there are many cases when the product is in production that, despite the fact that there are those green lights on the DC torque guns, problems occur down the actual and proverbial road (i.e., a fastener can be torqued to the right level, but even a tiny variable—say the sheen of oil on the surface of a washer—can have profound effects on the resulting clamp load. Which is to say that green light not withstanding, it's a no-go.) Does anyone care? They should: Small things can be Big Deals. *