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Small Parts, Big Problems: Fastener Management at American Turbochargers, Inc.

Brad Rogeman, Director of Procurement at American Turbochargers, Inc.'s (ATI) production facility in Cincinnati, Ohio, hung up the phone after another conference call on price negotiations for the upcoming year. This time it was with a major turbine housing supplier, but lately all price negotiations had led him to the same conclusion—there would be some tough rounds of negotiations in the next couple of months.

In an extremely competitive market, ATI had to keep costs as low as possible to remain a global leader. The ATI facility was the largest in the world by production volume, and the cost of the material and parts that went into production accounted for 75% of the total manufacturing cost on average; but for some models, it was close to 95%. Rogeman's responsibility was to keep that margin as high as possible. Although he wanted to spend more time processing the information from the call and refining his negotiation strategy, he was already late for his next meeting with Samuel Franklin, a member of his team and a buyer responsible for small parts.

As the auto industry came roaring back after the global recession in 2008, original equipment manufacturers (OEMs) and Tier 1 suppliers scrambled to work with sub-suppliers to increase capacity to meet projected demand and to keep costs low.

ATI was relying heavily on its procurement department to provide a competitive edge in a very price-driven market. Generally, it was easier to gain small piece price reductions for large parts. These reductions translated into huge cost savings. It was much harder for ATI to negotiate significant reductions in piece prices for small parts. (See **Figure 1** for a view of the typical screws used on turbochargers.)

Rogeman was frustrated that his small parts were taking up a disproportionate amount of time and resources to manage, but one aspect was particularly problematic. Fasteners are small parts such as screws, nuts, and bolts that served two main purposes for ATI: to hold a turbocharger together and to attach it to the engine. They represented only 5% of the average bill of materials (BOM) cost of a turbocharger. But the size and stature of fasteners in the production process drove rapid proliferation, and fasteners had become ATI's largest commodity group. Instead of focusing on a turbine housing that accounted for 35% of the total BOM cost, Franklin was forced to dedicate more than 35% of his time to fasteners. (See **Exhibit 1** for list of the ATI fasteners, suppliers, annual volume, and spending.)

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Vincent Ji and Jared Page, Tauber Institute Fellows at the University of Michigan prepared this case as a basis for class discussion under supervision of Gunter Dufey, Professor Emeritus Ross School of Business at the University of Michigan and Professorial Fellow, Nanyang Technological University, NBS, Singapore and Albert Shih, Professor of Mechanical Engineering at University of Michigan.. The case is not intended to serve as endorsement or illustrate effective or ineffective management. All names, numbers, and references to companies are purely fictitious. Any resemblance to existing companies, events, etc., is purely coincidental.