



## **60th Advanced Manufacturing Forum**

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### **Line Transfer and Product Development**

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Flinchbaugh Engineering's commitment to strategic thinking has allowed the company to grow its "line transfer" business strategy by providing large manufacturers with a low-risk alternative to off-shoring and an ability to still cut costs. Flinchbaugh Engineering makes precision manufactured parts for major OEMs. The company's top three customers are Caterpillar, SKF Bearing, and Siemens. It was founded in 1978 as an engineering firm, designing pivot shafts for Caterpillar. Eventually Caterpillar asked Flinchbaugh to also make the pivot shafts.

Today there are 210 associates manufacturing 992 different parts. A total of approximately 587,000 parts were shipped in 2006. FE's line transfer business represents a paradigm shift for its customers from the traditional mentalities of make or buy. In its simplest terms, line transfer is taking a customer's manufacturing line, cell, or group of cells and transferring the production to Flinchbaugh. The transfer includes the machine tools, the rigging, the fixturing, the CNC programs, quality control and the inspection plan. Customer benefits include product consistency, improved quality, technology capture and retention, and rapid start up/speed to market.

Line transfer is supported by three key elements: Lean tools (Total Productive Maintenance in particular), shared company ownership (the company is an ESOP), and a robust strategic plan.

Driving the strong ownership culture is key. Customers are encouraged to talk to machine operators because the operators have been briefed on the customer and the parts they will be cutting for the customer, and they also know how important the customer is to their own personal growth and financial well-being. Flinchbaugh measures its value-added sales growth and manufacturing sales against an hourly rate rather than against standards, instilling a more business-like mentality than measuring so many pieces per hour. New hires are subjected to an intense interview process and rigorous screening processes. As a small company, it has to be selective in who it hires to come on board the "ESOP Bus". As a result, Flinchbaugh has a very low attrition rate.

Strategically, Flinchbaugh's plan includes a professionally managed outside board of directors, the right financing, enough intellectual capital and a very active marketing program for the line transfer concept. Its strong competitive position is focused on five criteria: product mix demanded by the market, the buyer behavior of that market, price sensitivity/elasticity, technology (the good engineering in lines moved to Flinchbaugh does not get sent overseas), and proximity to distribution.

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Shared ownership and a strategic plan support line transfer, but Lean and especially TPM (Total Productive Maintenance) are what allow Flinchbaugh to effect a line transfer. Flinchbaugh's TPM program drives the core competency of 'machine uptime', which drives product quality, which in turn drives customer delivery. Machine uptime is 98 percent – a world-class figure. All Flinchbaugh machines are TPM-ed once a year, with the objective of having the machines in "two-year-like condition or less".

As a small company with limited assets, Flinchbaugh cannot be all things to all people. As a precursor to line transfer, Flinchbaugh looks for companies with aging equipment and capital constraints, excess capacity on the line, inflexible work rules and high labor costs, and no lean implementation because manufacturing is not a core competency. The best candidates are products that are difficult to produce, larger products with lower volumes, products difficult to ship long distances because of their shape or weight, or difficult to use because the part is not always repetitive – small families of complex parts may mean a high risk of failure.

Flinchbaugh makes a convincing case to customers that they can be more competitive by leaving their manufacturing onshore. Leave the line with Flinchbaugh and Flinchbaugh will deliver similar cost savings, not unit price, but total landed cost, right in York County, Pennsylvania, USA.