

SPARTAN HEAT EXCHANGERS, INC.

Rick Coyne is the Materials Manager at Spartan, Inc. Until recently, the company has benefitted from excellence in customization and specialized research & development of design with full-service custom unit fabrication. This has historically allowed Spartan to maintain a positive rapport with clients, as their approach allowed for meeting the client's specific needs. However, the industry trend has changed and competition from international sources has pressured Spartan's Executive Management to revise the five-year development plan to compete with Korean and European firms. The standard for the industry has shifted from customized solutions to a low-price, highly-standardized market. This is not in line with Spartan's current initiatives and Max Brisco, vice president of manufacturing, has solicited Rick to provide a detailed plan on how to achieve savings and efficiency in a transition to a more competitive manufacturing structure.

The most critical step in this reformation is to redesign workflow and job order processing from a job order/job ticket method to a more streamlined and standardized process. This will require re-engineering the workflow of the manufacturing workforce, and offers an opportunity for the research & design component to redirect their efforts away from customized products and toward a working internal manufacturing process. The use of job shop stations will be modified into a modular workflow, where multiple stations can be working simultaneously in a hybrid method of standardized and modular manufacturing.

Next, the standardization of raw materials and the reduction of material suppliers will allow the company to take advantage of added pricing leverage due to higher volume

purchases on things like commodities (in this case, aluminum) and tubing. With more standardization, reduction of vendors causes competitive bidding and thus added savings.

Another benefit of standardization is the reduction in number of parts, and a more limited menu of supplies to order, carry and incorporate. This will help in the tracking and logging of materials, as there are fewer SKU numbers to track. In addition it will make standardizing the logging and materials check-in/check-out process work with less time wasted justifying losses and misappropriations.

The plant currently holds about 60% of inventory as WIP, due to the longer lead times to develop and build custom products. As the manufacturing process is standardized, the build times for these products will decrease, allowing shorter lead times and therefore WIP will be in inventory for shorter durations of time. This will reduce the handling and storage costs, as well as free up space in the facility to be either re-allocated, or liquidated. At the present the best strategy is to develop manufacturing lines within this space. In addition, the shorter lead times will allow for a more expedient response to obsolescence in the market, and make ordering substitute parts due to R&D developments more convenient.

The modular approach combined with Standardized manufacturing methods allows for the company to stay true to the “customized” level of attention to client needs, yet provides a standardized framework to reduce confusion, simplify procurements, and reduce inventory carrying costs.