Faurecia’s Lean Management System

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Abstract
This paper deals with a company named Faurecia, especially their Exhaust Systems division, located in their Lordstown, OH assembly plant which produced the exhaust system for the Chevrolet Cobalt. Unfortunately, Faurecia did not receive the contract for the Chevrolet Cruze™ so the facility closed in June 2010. At the time of closing, some of the supervisors took positions at the newly opened just-in-time (JIT) facility in Toledo. A detailed discussion about the JIT facility in Toledo and its lean management system operations contrasted to the Lordstown plant was documented. Through detailed open-ended questions, it was found that Toledo JIT plant runs similarly to the Lordstown plant. Based on supervisors’ previous knowledge of how the Lordstown assembly plant operated is the focus this paper on their use of lean management to produce parts and manage inventories, including a discussion of their suppliers and use of logistics.

Faurecia is an international automotive parts supplier to all of the major automakers around the globe. They are a component part supplier who offers multiple parts across multiple divisions of the automotive industry. These divisions include Exhaust Systems, Interior Component Systems, Exterior Component Systems, and Seating Systems. They operate nearly two hundred and forty production sites and 38 research and development sites in 33 countries. They claim to be “the largest company that you’ve never heard of”. They are a French owned company, with a history that goes all the way back to the early eighteen hundreds when the Peugeot brothers opened a steel foundry to make saw blades, named “Peugeot.” Peugeot
eventually started producing automobiles. In 1914, Bertrand Faure started a company that made seats for tramcars in France. This company would eventually become the Bertrand Faure Group (BFG), and would produce automotive seating, exhaust systems, and steering columns. Later, in 1988 the Peugeot Group gained controlling interest of the BFG, when they bought them out. Prior to this in 1987, the Peugeot Group was busy forming a new company to supply parts to the automotive industry. This new company was named ECIA, which stood for Equipements and Composants pour Industrie Automobile or equipment and components for the automotive industry. Faurecia was ultimately formed in 1997, when the Bertrand Faure Group (owned by the Peugeot Group) took over the ECIA Group (also owned by the Peugeot Group) to form Faurecia. Two years later Faurecia acquired the American company AP Automotive Systems, to expand their business for exhaust systems into North America.

In 2004, Faurecia opened their first JIT facility in Lordstown, OH. This facility was used to supply exhaust systems to the General Motors plant, in Lordstown, for the Chevrolet Cobalt. The Lordstown facility was used as a test facility for working out all of the bugs before implementing JIT and lean manufacturing procedures in their other faculties. Currently close to half of all their manufacturing facilities operate using JIT and lean management.

Some key elements to making lean management work at this facility were site location, the layout of the production floor, the use of shift production meetings, work cells, work inspection, rework, inventory management, logistics, the use of supplier integration, and customer and supplier relationships. Knowing they were going to use lean management they wanted to locate the plant in a close proximity to the customer. They already knew how they were going to lay out the work cell and its dimensions, and that they would be maintaining minimal amount of inventory on hand so they set out to find a small warehouse. They were able to procure a smaller facility that had been built a few years earlier and never used before. This site was idea because it was located just half a mile from the customer, and it had easy access
to all the major highways in the area. Being close to the customer was important to them because in the event that a problem arose, they could quickly go to the customer’s plant and see what was going on first hand. This was viewed to be good for the customer/supplier relationship.

Initially, there were 3 work cells. The main cell was in the middle of the production area. This cell was setup in the traditional U-Shape, with 8 workstations operated by 7 workers. The first 6 stations were operated by welders and where the welding was performed. The last 2 stations were operated by a material handler and were used for quality assurance. The welding workstations were welding jigs that had the capability to rollover to gain access to the bottom of the part making it easier to get to. These are referred to as rollovers. Rollovers 1 through 4 were where the hanger rods and heat shields were attached to the inlet pipe. Rollover 5 was where the inlet pipe assembly was welded to the muffler assembly. Rollover 6 was where the hanger rods for the muffler are welded on. Workstation 7 was a leak checked machine that checks the exhaust system for leaks by testing to see if it will hold air pressure. Workstation 8 was a gauge to verify that the hanger rods were located in the proper location. After the part was verified it is placed in a storage rack, and full racks were placed in to stock. One person operated workstation 7 and 8. This cell was responsible for final assembly of three different exhaust systems. These systems are the L-61, which has a regular exhaust tip, L-62 which has a chrome exhaust tip, and LE-5 which is a larger unit for the supercharged engines. This assembly also has a chrome tip.

The next cell consisted of just 2 workstations operated by one welder. The first station was an automated weld machine. This machine was loaded by the welder and welded the tailpipe to the muffler. While this machine was welding the part, the welder used this time to tack weld the muffler heat shield to the muffler and if needed the chrome tip to the tailpipe of the muffler he just pulled out of the automatic welder. Completed muffler assemblies were placed into bins of 20 and then placed into the work in progress inventory. There were 3 types of muffler assemblies made here. The
assemblies were L-61 which has just a regular exhaust tip, L-62 which has a chrome exhaust tip, and LE-5 which is a larger unit for the supercharged engines. This assembly also had a chrome tip.

The third cell also consisted of 2 workstations and just 1 material handler to operate both stations. The first station was cold end sequencing (the completed exhaust system assembly from cell one) and the hot end (this is the catalytic converter) sequencing station. Faurecia’s Lordstown outsourced this part to their sister plant in Troy, OH. General Motors would give production orders two weeks in advanced and would broadcast by computer the daily production run. This would let Faurecia know what parts were needed, and what order they were needed in. The sequencer would be queued by the computer as to what part was needed in the slot and would place the part in that spot and scan it to verify the part. This would be done for both hot and cold ends in separate containers.

**KEY WORDS:** case study, cellular layout, lean, manufacturing, supplier integration, supply chain management.

**Relevance to Marketing Practitioners:** This case study is relevant to marketers and researchers in dealing with lean cellular layouts, supplier relationships and locational strategies issues for large organizations in formulating their supply chain management policies and practices.

**TRACK:** Business-to-Business/Supply Chain Management