# Bloomington-Normal Seating Company puts RFID on the line

Bloomington-Normal Seating Company (BSC) is a just-in-time manufacturer and tier-1 supplier of seats to Mitsubishi Motors. Seat manufacturing is a multi-stage process involving numerous stations where data is collected and passed along with the product.

BSC decided to automate the collection of component and QC data so that little or no human intervention would be required. The goal was to reduce "misloads" or assembly errors caused by missing or bad information from previous stations. Automated data collection would log all information so that it would be easily accessible in the future, and could be made available to Mitsubishi when the product is delivered.

BSC laid out the following requirements for their data collection solution:

- Institute lot traceability to the component level
- Identify a variety of component parts
- Capture QC data
- Labels or tags must be removable when assembly is complete
- No handling of scanners or readers by operators
- No interruption of the assembly process
- Direct interface with host system (USData FactoryLink and XFactory)


BSC worked with Purple Oak, Inc., specialists in data collection systems, to find a solution that would meet their requirements. After reviewing BSC's manufacturing process and system requirements, Purple Oak proposed a solution that included a combination of RFID and bar coding that would interface directly to BSC's host system. Purple Oak recommended Texas Instruments' TIRIS low-frequency RFID product line for its high-quality, reliability, and ease of integration. In addition, Purple Oak proposed Symbol Cyclone scanners for hands-free reading of bar coded serial numbers on airbag components.

The solution gives BSC the ability to collect all the data they require with minimal handling by the operator. In addition, the RF tags are removable and accommodate changing product orientation during the manufacturing process.

At the start of the line, BSC affixes an RFID tag to the seat back and "registers" it with a tag reader. Next, the airbag serial number is recorded with the hands-free projection scanner at the airbag assembly station. The seatback assembly is then matched with a seat bottom to form a single production unit. At each stage in the assembly process, an RFID antenna reads the RF tag to identify the seat being built. Lot information and safety-related data, including quality checks and torque readings, are recorded. At the end of the line, the RF tags for the front left, front right and rear seats are gathered and read to associate the seats as a set.

Kent Sulzberger, IS Assistant Manager at BSC, is in charge of implementing the system. Kent has found the technology easy to work with. "We really haven't had many problems with the technology. Right now, our biggest challenge is training our operators to work with the technology. We're pleased with the solution that Purple Oak delivered, and we see long-term benefits ahead."

*Purple Oak, Inc. designs bar code and RF solutions for data collection problems in manufacturing, warehousing and distribution, and corporate business operations nationwide. Purple Oak customers range from Fortune 500 companies to small businesses desiring to improve the efficiency and accuracy of their data collection operations in all applications. Founded in 1996, Purple Oak is a privately held company headquartered in Morton Grove, IL. For more information, contact Purple Oak at 847-699-9630 or visit www.purpleoak.com.*