



RFID APPLICATIONS FOR THE AUTOMOTIVE INDUSTRY

Intermec's Intellitag® RFID (radio frequency identification) technology supports a newly developed standard that will help automakers and tire manufacturers track tires before they ever hit the road. The tags hold data that associates that tire with a specific vehicle at an auto plant. The tag data, required by the US Department of Transportation (DOT), includes the week, year and location of manufacture. Shown is a prototype RFID tire tracking tag.

While RFID is proving to be a valuable tool for item tracking in manufacturing and warehousing environments, it's becoming a staple in the automotive industry. Intermec's Intellitag® RFID tags are playing a leading parts traceability role in that industry.

Tracking tires put on new vehicles has become a top priority of the major American automakers and tire manufacturers. An RFID item-level tracking standard under development by the Automotive Industry Action Group (AIAG) will greatly speed and simplify verification of tire warranty, authenticity and variability. Intellitag is the first RFID product on the market that supports the new standard.

Placed on the inside of a tire by the tire manufacturer, the read/write RFID tag provides the ability to associate that tire with a specific vehicle. Along with the unique tag ID, a 12-character coding structure called the DOT (Department of Transportation) number will be written to each RFID tag by the tire manufacturer. The DOT code identifies the manufacturing plant, tire size, the unique attributes of the tire, and the week and year the tire was manufactured. Tires with RFID tags are expected to be released in 2002.

The new tire tracking standard is based on the American National Standards Institute's material handling MH10.8.4 specifications, already supported by Intellitag products.

Tire Tracking Benefits

According to the Rubber Manufacturers Association, the shipment of tires for new passenger vehicles and light trucks in 2000 totaled 67.3 million, while replacement tires totaled 233.2 million. The key advantages of associating each new tire with an RFID tag to the related vehicle identification number are expediency and efficiency for warranty campaigns.

Consumers reap the benefits of enhanced safety and less inconvenience through selective recall campaigns that more quickly remove specific tires from the roads.

Tracking Engines and Transmissions

Some automakers want to track other parts as they assemble vehicles in a highly automated environment. Applications include attaching RFID tags to engines, transmissions and other major components to track their whereabouts in the factory, as well as ensure the parts are at the right place at the right time.

An encapsulated tag has been developed to withstand the harsh environment that these components experience as they are machined, inspected, and assembled. Stationary readers read the tags, which further automates the manufacturing process.

RFID Benefits for Automotive

RFID can be used in a wide variety of automotive applications because of its automated method of operation that requires less human involvement than bar code data collection systems. These intelligent tags allow updated information to travel with the individual item, be it a tire, engine or air bag, as it passes through the manufacturing process — information that can be dynamically changed throughout the journey.

Information included on the tag could include individual part identification, specifications tests, vendor source, VIN match, warranty data and more.

Secure data is another benefit of RFID technology. Permanent locks within the Intellitag chip can secure data at the byte level to prevent changes to data. Memory left unlocked can be rewritten up to 100,000 times. Bytes can be locked in the factory or in the field to protect data as the tag moves along the supply chain. Data can also be encrypted or password protected if the application requires data security.

A Complete RFID Solution

Intermec offers a complete Intellitag product family for automotive data collection, which includes tags, handheld and stationary readers, printers, labels, wireless local area networks and software. Extensive research and development and real-world applications ensure a reliable RFID system with extensive data collection and sharing capabilities.

Call Intermec today to learn how RFID can help you solve a business problem.



Intermec offers a full line of Intellitag products for item tracking and management applications, including tags, mobile and stationary readers, printers, labels, wireless local area networks and software.

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