

Driven to succeed



HP and AT Information Products help Dana's Brake Parts Inc. meet high package coding standards for automotive parts.

Brake Parts packages systems and components for 12 private brands.



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Joe Krueger, Brake Parts Inc.

For Brake Parts Inc., quality is the engine of success. Both Brake Parts and its parent company, Dana Corporation, are known for fiercely high standards, continual improvement and customer service. No detail escapes scrutiny—not even the bar codes on the product package.

Dana Corporation is one of the world’s top manufacturers of automotive parts. Its subsidiary, Brake Parts Inc., located in McHenry, Illinois, is the leading manufacturer of automotive braking systems and components. Brake Parts packages systems and components for 12 private brands. Each package is printed with the appropriate brand imaging and the product name plus extensive variable data: UPC bar codes, part numbers, date codes, country of origin and product descriptions in three languages for NAFTA compliance.

Since 1990, Brake Parts has been using a print system from AT Information Products (ATIP) to print the variable data. The original process was a complex coding system that involved two steps. Two continuous inkjet printers printed the part number and other information on the box. But because those machines were not capable of printing readable bar codes, a thermal transfer process was used to print bar code labels and apply them.

There were many problems with the original system. It had aged. The printers required extensive maintenance. Because they had become obsolete, replacement parts were hard to come by. The printers used a methylethyl ketone (MEK)-based makeup solution that was odorous and required special waste disposal. Operators did not like to work with it.

The two-step process was time consuming. With ink, the makeup solution, labels and thermal printer ribbons to buy, the system was also costly. Plus, “print quality was an ongoing struggle,” says Joe Krueger, Brake Parts product line manager for hardware and cable manufacturing.

Brake Parts wanted to shift gears. A few years ago, the company asked ATIP for a print system that would be easier to use and environmentally friendlier. The print engine also needed to be fast. Brake Parts typically prints 20,000 to 25,000 boxes per 10-hour shift, with 100 to 150 different part numbers. The variable data and bar codes needed to look good so they wouldn’t detract from the integrity of the package design.

“High-quality printing is very important to us,” Krueger says. “The printing on the box is one of the first things our customers see when they pick up our product.”

In 2001, compelled by the needs of Brake Parts and other customers, ATIP had the answer: a new line of inkjet coding machines, called AUTOPRINT®, featuring HP thermal inkjet technology.

HP to the rescue

Thanks to HP technology, ATIP was able to solve the problems Brake Parts had identified. ATIP’s AUTOPRINT System uses thermal inkjet technology in a customizable printer for high-volume manufacturers who print and code packages in multiple sizes for multiple customers. The solution tailored for Brake Parts features three printheads and nine HP cartridges to address all coding needs.

“They wanted one technology to print all the variable machine-readable and human-readable information,” says Roger Angrick, general manager for ATIP, based in Mahwah, New Jersey. “We came up with a solution featuring HP cartridges to print both of those components in one pass with HP inks. HP technology prints at 600 dpi, whereas others are only about 150 dpi.”

“Many of our customers specifically look for environmentally safe inks to print and code packages at high resolution without using a label.”

Roger Angrick, AT Information Products

Kind to the environment

The environmental qualities of HP technology were compelling for ATIP as well as for Brake Parts. “Many of our customers specifically look for environmentally safe inks to print and code packages at high resolution without using a label,” Angrick says.

HP’s inks are water based and therefore generate much lower levels of volatile organic emissions than solvent-based inks. Empty cartridges can be recycled through HP’s Planet Partners™ return and recycle program. There is no need to buy special chemical cleaners or hire technicians qualified to handle volatile solvents.

With the old system, by contrast, both the ink and the acetone (MEK) solution were considered hazardous waste. Brake Parts was eager for a better option.

“Our plant is an ISO 14001-registered facility,” Krueger says. “Our certification for ISO 14001 compliance is indicative of our commitment to be good neighbors in our community and protectors of the environment. We take a proactive approach to reducing all of our waste streams. Elimination of this hazardous ink was a very significant improvement to our environmental management system.” In short, the fewer hazardous substances Brake Parts uses, the fewer it has to dispose of.

Easy to use

The cartridge-based HP technology requires no special training for operators. There are no mats or plates to change. The self-contained print cartridges, which include both the ink and the printhead, simply snap in and out for easy replacement.

“The machine is easy to set up and operate,” Krueger says, “and there is a significant reduction in the time required to maintain the ink system.”

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The need for speed

Speed was another prime consideration. With a lot of variable information to print, Brake Parts required top performance from its package coding printer. Thermal inkjet technology employs hundreds of tiny nozzles firing at high frequency to achieve high-quality, high-speed printing.

“During our peak season,” Krueger says, “we need to be able to print 80 to 100 boxes per minute.” This is well within the capability of HP technology and the AUTOPRINT machine.

Elimination of the hazardous ink and acetone (MEK) solution waste stream was a significant improvement to Brake Parts' environmental management system.

"The new system reduced our printing costs by 66 percent."

Joe Krueger, Brake Parts Inc.

Substantial savings

As for costs, those make Brake Parts happy, too. "The new system reduced our printing costs by 66 percent," Krueger says.

Those savings result from several improvements: elimination of hazardous materials, lower maintenance costs because of the recyclable HP cartridges, and reduction of a two-step process with a long list of supplies to one.

Quality assurance

To ensure that the bar codes printed would meet the highest standards, Brake Parts requested an inline verification system—an innovative feature ATIP was able to accommodate. "Nearly all of our customers use bar code scanning for inventory management," Krueger says.

Even in the best printing systems, substrate problems and dust, among other things, can mar bar codes. Inline mechanical verification grades each bar code and detects problems too small to be visible to the human eye. Boxes that don't meet the standard are ejected from the line

HP cartridges enable printing of all the variable machine-readable and human-readable information in one pass.



while the machine keeps running efficiently. "Brake Parts is giving that extra step of quality assurance to ensure that every bar code printed meets the industrial standard for bar code reading," Angrick says. "With a verification grader, the printing system as is close to perfect as it can be."

Well matched

Brake Parts is pleased with the solution. "ATIP is very easy to work with," Krueger says. "They are experienced in our industry and work hard to meet our needs. Their technicians stayed with us during the installation and worked with us until our issues were resolved."

A thorough search of the industry led ATIP to choose HP as its printing partner. "HP was the most cooperative and had the best product in the marketplace for us," Angrick says.

Ultimately, HP and ATIP have enabled Brake Parts Inc. to meet one of its most important objectives: continual improvement. "I would recommend this system to others for packaging," Krueger says. "It is a low-cost, high-quality alternative to conventional inkjet printing."

For more information about HP Specialty Printing Systems and our partners in digital package coding, please visit us at www.hp.com/oeminkjet

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5981-6815EN, 1/2004

