

# Automotive News

## 25 innovations

**James B. Treece**

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Innovation drives the automotive industry. Automakers' new cars and trucks get the attention, but much of the innovation comes from suppliers.

For 15 years, *Automotive News* and other sponsors have honored suppliers' innovations with the PACE Awards. PACE stands for Premier Automotive Suppliers' Contribution to Excellence.

This special section draws on those 15 years of achievements and selects 25 that have changed the nature of the industry. This section salutes the ideas that reinvigorate the industry and the men and women who make those ideas reality.

### **How we chose these 25 innovations**

This list of 25 innovations is drawn from 15 years of PACE Award finalists and honorable mentions.

All the finalists and honorable mentions over the years were superb innovations. Working from that list, we set out to identify 25 that went beyond technical brilliance. We wanted to honor innovations that have changed the industry.

First we asked PACE judges to point out any technologies that they thought were worthy of inclusion. Then — in a sometimes heated debate — an informal panel of *Automotive News* reporters and editors combed through the 15 years of finalists and honorable mentions.

After that we looked for evidence that the market has embraced the innovation or is doing so. Lots of innovations look good technically but fail in the marketplace. Maybe the cost is out of line with the perceived benefit. Maybe it's a solution in search of a problem.

We were looking for innovations that have had a significant impact on the industry. Some have raised the bar of customer expectations. Others have led to substantial improvements in fuel economy, emissions or safety. Yet others became "must have" features, forcing rivals to match the innovation to stay in the game.

This is a subjective list, open to debate. What is not open to debate is the importance of innovation.

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## 15. Ignoring the experts for a better hem

**Ralph Kisiel**

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Sometimes you have to ignore the experts.

About 10 years ago, James Toeniskoetter, president of Hirotec America Inc., started to conceive a sheet metal hemming press that would be quieter, less costly and greener than a traditional press.

His solution: Ditch tried-and-true hydraulic technology for electric motors.

"My press experts first didn't think it would work," Toeniskoetter says. "They thought it was a crazy idea, and most of the people we initially talked to in the industry also couldn't imagine such a device and recommended against it."

Toeniskoetter, who directs r&d for Hirotec in North America, was not deterred. The welding engineer had joined Hirotec, then known as Tesco Engineering, in 1989. In 2000, he became president of the subsidiary of Hirotec Corp., of Hiroshima, Japan.

A hemming press looks much like a stamping press as it presses down on sheets of metal. But instead of shaping each sheet into the form of a die, a hemming press joins two metal sheets: a car's inner and outer body panels. The press bends and folds the outer panel's edge over the lip of the inner panel, creating a smooth edge for vehicle doors, hoods and trunk lids.

### **E3 Hemming Press**

**Company:** Hirotec America

**What it does:** Hems exterior body panels, such as doors and hoods, to interior panels without hydraulics

**How it changed the industry:** Eliminates disposal of hydraulic fluids, slashes energy use

By 1999, Toeniskoetter had designed his first electric hemming press. It looked much like a traditional hydraulic hemming press. The pressure to join the panels pushed down from the center of the top of the press.

Chrysler group bought it, but Toeniskoetter was not satisfied. "So we stepped back and looked at it with a whole new approach," he says.

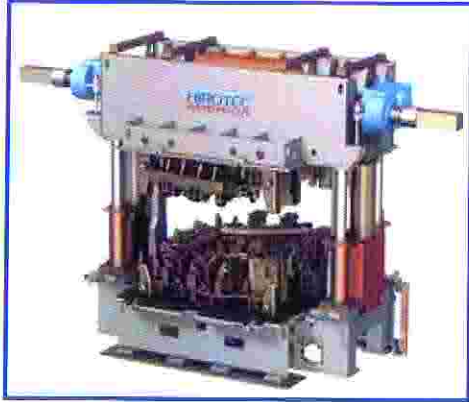
The result was the E3 Hemming Press — E3 stands for electric, efficient and environmentally friendly. Instead of using hydraulic pressure to push a die downward, the E3 has two 20-hp electric motors that move up and down poles on the side of the machine to pull the die down.

"When you use hydraulic fluids, you have a lot of disposal issues," Toeniskoetter says.

"Also, anything hydraulic is traditionally an energy hog. When you have no motion, you are still retaining the hydraulic pressure, so it runs constantly. With an electric drive, it only runs when it moves."

Chrysler bought the first E3. In eight years, Hirotec has sold 29 E3 presses to Chrysler, Volkswagen AG and Ford Motor Co.

That's a lot of new presses in an industry that prefers to restore an old one.



**ENLARGE**

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