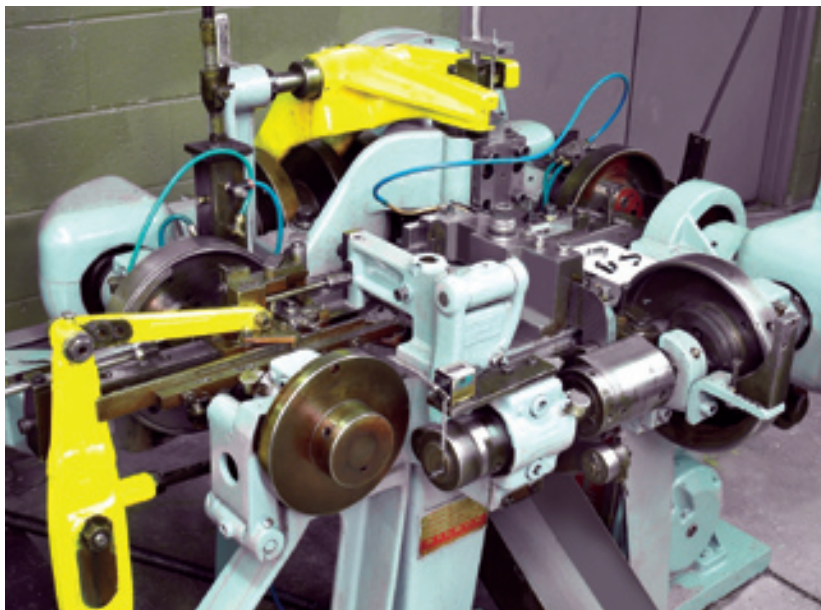


# Solutions for Short-Run, Light Stamping

**When two contract manufacturers needed a solution for stamping jobs that didn't require a large investment, they found a machine to fit their needs**



**The Fourslide machine provides a cost-effective alternative to progressive die tooling for short runs**

When plastic injection molder Nordon Inc., Rochester, NY, saw an opening in the automotive market, it pounced. To capture a contract for heavy truck alternator contacts, it had to deliver overmolded metal products as quickly as possible, at the lowest possible price, while meeting quality specifications. To win the contract and successfully manufacture the product, traditional power press production was considered but given a pass.

“For a million-piece run, it makes sense to buy product from China by the container load, but that’s not what customers want,” Paul Reed, a Nordon senior executive, said. “Customers won’t accept three- to four-week lead times for products they need readily available. They want smaller quantities, just-in-time delivery, and the ability to make changes almost on the fly.”

The company wanted to avoid the high tooling costs of power presses, while minimizing the amount of copper and tin scrap produced.

“The overmolded metal components equaled about 60 percent of the piece part price, so we needed a cost-efficient process.”

Reed turned to Fourslide Spring and Stamping, Inc., Bristol, CT, a supplier specializing in integrated stamping and forming

parts operation, instead of purchasing a power press that would be over-capable for the job.

## Short Life, More Life

With greater customization comes shorter product life cycles, smaller lot sizes, and higher material prices. None of these changes play to the power press’ strengths, which come into play on large production runs.

The high cost of tooling – \$20,000 and up – and other factors puts the high-speed power press/progressive dies out of the reach of companies such as Nordon.

What Reed found in Fourslide was a cost-effective alternative for stamping jobs under one million parts and 25 tons. On parts less than 2" wide and less than 0.075" thick, the Fourslide process produces complex work, such as involved forming, multiple bends, or bending elements beyond 90°.

The Fourslide system offered Nordon a part-making process capable of cutting tooling costs to as little as \$3,000, halving tooling lead times, and eliminating after-production adjustment to meet specifications.

The Fourslide process starts with the raw material in flat strip form off of a coil, which is stamped or blanked in the progressive die section of the Fourslide machine, a lighter version of the progressive die found in most power presses.

Fourslide advised Nordon about the prospective part design, including changes that could be made on the customer’s original 3D model.

## Winning Work

According to Reed, Fourslide’s quick tooling turnaround, price, flexible part revision, and ability to jumpstart production all helped to win the contract. The program’s success led to additional business for Nordon, which Reed said traditional power press equipment would find difficult to match.

“To manufacture a half-dozen electrical lead products, we could’ve easily spent \$20,000 each in power press tooling,” says Reed. “With Fourslide, we were able to complete tooling for the entire program for under \$20,000; that’s about \$100,000 in savings.”

Just as important to Nordon was Fourslide’s ability to cut about three weeks off production lead-time from what was estimated as an eight-week process.

“Helping customers get product to market faster provides a real competitive advantage,” Reed said. “It helps beat out

rivals with faster response to changing market demands. We can better position ourselves for today's smaller lot sizes, shorter product life cycles, and rising material costs. The Fourslide process helped us minimize our tooling and material costs, while accelerating handling and operation," Reed said.

Many shops and contract manufacturers need to stamp parts, but few need runs of a million or more. Many manufacturers use complex, high-speed, power press/progressive die machinery for parts production. While this worked 20 years ago when production runs above a million were more common to fulfill contracts lasting years, today shops and manufacturers must be agile and cost-effective to compete in the market.

### Dental Care

Bisco Inc., Schaumburg, IL, a manufacturer of dental materials and accessories, found itself considering how to best manufacture a dental dispensing device requiring several flat metal-stamped springs. When the company had to decide between a traditional power-press progressive-die system and Fourslide machinery, it went with Fourslide.

"In our quantities, progressive die tooling was too costly," Richard Nagel, product engineering manager, said. "Since the product was new, we expected some changes during prototyping and development. With progressive dies, we need to know exactly what we want from the first piece on, and changes could be cumbersome for our needs."

Nagel chose the Fourslide machinery with additional savings in consolidating production with one supplier.

"We saved about 30 to 50 percent on our initial tooling and tooling revision costs by using Fourslide instead of more complex progressive dies," Nagel said. "Even though the Fourslide machinery is synchronized, it's easier to change sections of its tooling without affecting the whole. The savings we've realized amortizes right back into the price of the parts, which helps us stay competitive in our market."

Nagel has been satisfied with the quality his smaller machine produces.

"Part quality and tolerances are outstanding with no edge burrs or distortions," he said. "Whether for straight stamping or more complex forms, we've

achieved the cost, delivery, and flexibility we need."

Though the Fourslide process is increasingly used for "straight stamping," it can be used for parts ranging from precision metal stampings, flat springs, and wire forms to complex forms.

Material strips passing through Fourslide's light progressive die are fed into the forming section of the machine, where four tool-carrying slides form the part from four directions simultaneously,

forming the material around a center tool or mandrel. The machine cams' setup determines the sequence of tool strikes. *Fourslide Spring and Stamping Inc.*

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