

# INJECTION MOLDING

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## AWARDING A CLASSIC

American designs dominate SPE competition



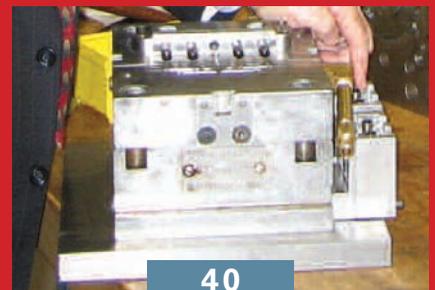
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Reinforce the troops with an apprentice program



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Standard dryer slashes 25% scrap rate to nearly nothing



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Don't be a fool—maintain that tool

# Mold maintenance matters

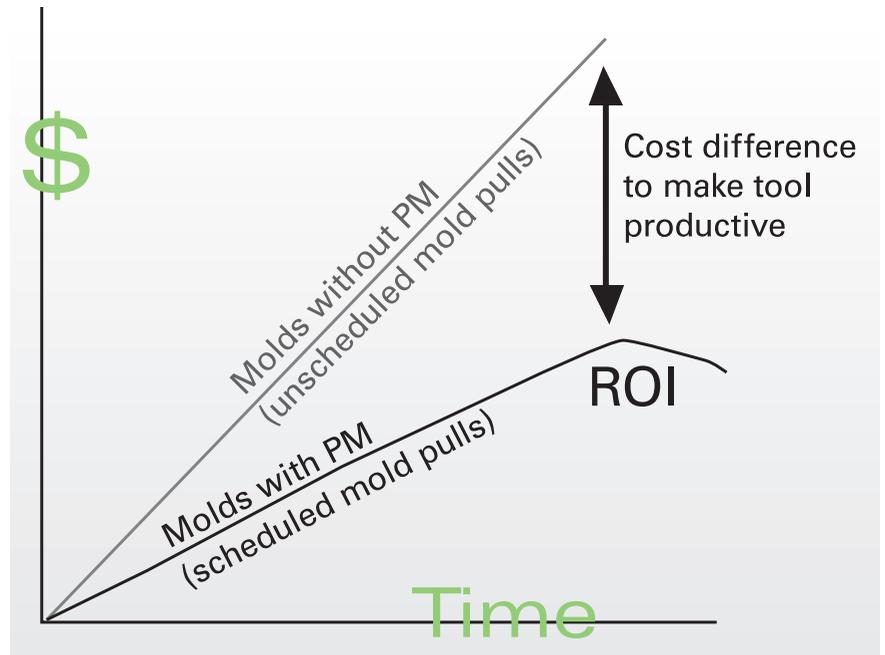
Why take an expensive mold, drop it into an expensive molding machine, and then pinch pennies in keeping it running? Mold maintenance propels profitability. —**Carl Kirkland**

**I**MM recently got an offer it couldn't refuse. Glenn Starkey, president of a leading global supplier of tooling components, Progressive Components (Wauconda, IL), offered to take us on an excursion to meet with mold maintenance personnel. Starkey's on a mission. He wants to impress upon us what he calls, "The profound benefits of mold maintenance."

We visited some Chicago-area companies in order to let them tell you, in their own words, what best-in-class mold maintenance means to their organizations.

You might say Starkey has a vested interest in promoting mold maintenance. After all, as we've reported, Progressive Components hired Steve Johnson, president of MoldTrax (Ashland, OH), as its maintenance systems manager, and is promoting Johnson's advanced, but affordable, mold maintenance software, MoldTrax 4.0 (see [immnet.com/product\\_news/2006/December/2093](http://immnet.com/product_news/2006/December/2093) for more information). Also, Starkey and others at Progressive donate some of their time to ToolingDocs, an online maintenance resource and seminar provider dedicated to improving mold maintenance practices.

Starkey says he compares the embracing of proper mold maintenance to other paradigm shifts such as the move to CAD years ago, or the emergence of quality



**Progressive Components' Starkey says that without PM, it costs substantially more to reach your ROI for that mold.**

standards such as ISO. To reinforce his point, we were to meet with toolroom veterans, including visits to Hollister Inc. (Libertyville, IL), manufacturers of specialty medical products, and NyproMold Inc. (Gurnee, IL), which builds precision molds for the consumer/industrial, electronics/telecommunications, and health-care industries.

Could *you* refuse an offer like that? Neither could **IMM**.

## Like diet and exercise

One toolroom manager, who wishes to remain anonymous, says some have yet to embrace the maintenance imperative. "Mold maintenance? I don't believe that a lot of people are deep-thinking this issue, but it's like diet and exercise—if you don't do both you're going to pay for it in the long run," he says.

When you hit your ROI, your mold's

cost goes down, but the expense to continually operate that mold will, over time, go up.

In the short term, being aware of a mold's performance and maintenance characteristics can dramatically reduce the downtime required to troubleshoot, repair, and return the mold to production-ready status.

He says that these key factors should be pointed out to reluctant bosses and bean counters in order to get everyone to embrace the need for an aggressive maintenance program.

To impress maintenance advantages on management, the following five key reasons for establishing such a program were listed by our source:

1. Maintaining molds increases productivity, cavitation, and uptime.
2. It supports your company's quality efforts, like ISO compliance, lean man-

## TOOLING

Engineer | Build | Maintain



### Hollister fast facts

- Privately owned, internally funded, Hollister employs about 600 people in Illinois and 3000 worldwide, including more than 120 moldmakers.
- Corporate headquarters are in Indiana; manufactures products in Missouri, Virginia, Ireland, and Denmark.
- Builds fully hardened, Class A molds; stainless steel mold bases.
- Kirksville runs 23 machines, 250-750 tons; Libertyville has four presses, 30-160 tons, Arburg and Husky.
- Objet 3D printing RP system is used for prototyping, with Moldflow and SolidWorks software used in mold design.
- RJG transducers used in all molds.
- Prototype molds in steel with built-in pressure transducers; Haas VM2 four-axis mill for product development.
- Uses MoldTrax 4.0 software.

Hollister's Terence King tells Starkey that his company can't afford to deal with mold maintenance problems after they occur.

ufacturing, and zero defects.

3. It encourages the "trust factor" among your customers.

4. It reinforces your customer service and sales activities.

5. It reduces the cost and heartache of nonperforming tooling.

"Sometimes it's like herding cats in a row, but you've got to convince management how much it costs if you don't do maintenance right," Progressive Components' Starkey adds. "It's like the

old auto parts commercial—'You can pay me now, or you can pay me later.' And everyone understands that it costs a lot more to the organization to be fire-fighting in the toolroom than to be proactive."

This realization isn't just a top management thing. Trust has to be established between the toolroom and scheduling people. "Scheduling and customer service personnel tend to break out in hives at the thought of pulling what they think is

a perfectly good mold," Starkey says.

"When you say you need a mold for two days, it can't then become two weeks. Credibility needs to be established that maintenance provides productivity, rather than hinders it."

### An uncompromising concern

In Libertyville, IL, we met Terence King, manager of molding technologies at Hollister Inc. A toolmaker by trade, King was plant manager of a large Illinois moldmaker years ago before joining Hollister, a global OEM of specialty medical products.

It molds parts at its facility in Kirksville, MO and also sources them from certified vendors. Its parts and molds are designed and prototyped in Libertyville.

"Medical product manufacturing involves IQs, OQs, and PQs [installation, operations, and process qualifications].

Integral throughout this is the maintenance of our tools. It's critical," says King.

"And mold maintenance is much more important when you're outsourcing—when you're a buyer. So, writing maintenance procedures into a contract and keeping track

### NyproMold Chicago fast facts

- Employs 25 moldmakers, including a four-man mold maintenance crew.
- Molds are built using a proprietary, closed-loop, fully computer-integrated mold manufacturing process.
- Late-model CNC moldmaking equipment includes 50-plus systems from Mori Seiki, Yasda, Makino, and Mitsubishi; 3R tooling is standard; uses Brown & Sharpe CMM inspection.
- Builds two-shot, stack, and unscrewing molds.
- Has built molds with up to 74 cavities; most are eight- to 16-cavity molds.
- Designs and builds turnkey manufacturing systems.
- Uses MoldTrax 4.0.



Richard Stueber, NyproMold (above) and Edward Jozefowicz, Nypro Chicago (right), say mold maintenance is a value-added customer service.



of procedural compliance is very, very important for Hollister.”

King explains that even a small issue such as a tiny amount of flash around a mold’s ejector sleeve could not only wreak havoc and shut down an automated assembly line, but could even lead to an end user issue in medical applications.

“Without proper mold maintenance, it’s all pointless. We want to know about problematic incidents before they turn into big problems. You can’t allow the entire process to be compromised due to problems with the tool.”

### Closing the maintenance loop

In addition to transmitting printed details, photographs, and whatever else it takes to ensure proper mold maintenance is Hollister’s use of MoldTrax 4.0 software. King was first introduced to MoldTrax when meeting Steve Johnson at a ToolingDocs technical conference several years back.

“Our goal is to be able to log onto MoldTrax from anywhere in the world. The software probably has more powerful resources than we may ever need to use. For us, however, all we have to do now is just plug in an MRP number, link that to the tool number, and, bang, we have all the details we’d ever want,” he says.

If there’s a maintenance-related error anywhere in Hollister’s supply chain, King says that MoldTrax makes it easy to spot someone in the supply chain who failed to close the loop.

“We needed something simple, something all parties involved could understand,” King says. “Our products live long life cycles, so we don’t build cheap

tools. Some of our active molds are more than 20 years old. Why design a mold, build it, put it in an expensive molding machine, and then, what—forget about it? Mold maintenance—it’s such an easy thing to do. It’s not major brain surgery.”

### Satisfying customer requests

Our last stop was at another MoldTrax 4.0 customer, Nypro America’s operations in Gurnee, IL. There are two different Nypro companies under one roof in Gurnee—a contract manufacturing operation (Nypro Chicago) and a moldmaking firm (NyproMold). Edward Jozefowicz, program manager of Nypro Chicago, tells us that its customers inspired the company to use MoldTrax.

“Not too long ago our three biggest customers said we had to have a program like this,” Jozefowicz explains. “A lot of maintenance systems out there are ‘general’—that is, they’re designed to work for anything. We were looking for something more specific to molds. I look after 25 molds and these are now operating within the system. Many of these molds have 12 million to 15 million shots on them, and continued proper maintenance is essential. Our system now lets us track the maintenance records for each component in each mold, even if we’ve mixed items from tool to tool.

“Any other approach is just guesswork. What portion of your house is on fire? One can’t be sure. But MoldTrax really helps us find the smoking gun.”

With a simple query, Starkey says users can learn the top reasons for unscheduled mold stops. Another can produce a listing that shows which molds are

most expensive to maintain, and recurring product defects.

### An affordable advantage

“Efficiencies and spares cost money,” says NyproMold’s Robert Haag, manufacturing manager. “This software is easy to use if you know how to access a database. It’s been up and running more than three months. The real proof will be in six months to a year down the road.

“A lot of our customers are starting to ask us for some way of tracking tool maintenance—after all, PM, repairs, and mold components all get wrapped up in costs, just like overhead. And with customers at times owning the spare parts, we are able to demonstrate that we have a system for managing that inventory.”

Jozefowicz concludes, “It is a selling advantage for us, allowing us to show our customers that mold maintenance is just one more issue we’re on top of. They’re all looking for value-added services. When you can buy a powerful system like this that does what it can do, I don’t see why anyone wouldn’t want it in their shop.” 

#### Contact information

Hollister Inc.  
 (800) 323-4060 | [www.hollister.com](http://www.hollister.com)

MoldTrax  
 (419) 289-0281 | [www.moldtrax.com](http://www.moldtrax.com)

NyproMold Inc.  
 (847) 855-9555 | [www.nypromold.com](http://www.nypromold.com)

Progressive Components  
 (800) 269-6653 | [www.procomps.com](http://www.procomps.com)

ToolingsDocs  
 (800) 257-8369 | [www.toolingdocs.com](http://www.toolingdocs.com)