

# Kraftsmanship by Design



Jerry Dover, Kraft manufacturing engineer.

TEXT BY JASON MACDONALD,  
FEATURES EDITOR  
PHOTOS BY GEOFF SCOTT

“Wulftec offered a heavier-duty machine, with larger motors, higher horsepower, the right PLC. Everything right down to the structural steel was bigger and stronger.”

Eric Fernhout, electrical serviceman responsible for PLC programming, with the custom PanelMate touch-control screen on Kraft’s Wulftec Tornado rotary arm stretchwrapper.

One look at the smooth-running cereals and rice packaging line at **Kraft Canada’s** half-a-million-square-foot Cobourg, Ont. facility is enough to tell you that Jerry Dover’s 10 years in the military have served him—and now Kraft—very well.

Dover, who spent four years at the **Royal Military College (RMC)** in Kingston, Ont., and six years as a maintenance engineer in Canada’s armed forces, is one of the plant’s manufacturing engineers, and as such he appreciates efficiency.

So when inefficiencies on one of the plant’s secondary packaging lines were revealed a little while ago, Dover and a team of Kraft plant personnel jumped at the chance to rectify the situation.

Kraft’s 500-employee Cobourg operation is divided into what Kraft calls “focus factories,” with each factory dedicated to specific groups of products. One group is comprised of desserts and beverages, like *Jello* and *Kool-Aid*, while the other factory is dedicated to the production and packaging of the *Post* brand of cereals and *Minute Rice*.

The cereals and rice factory has five floors of processing equipment, all feeding down to the ground floor where the packaging equipment is located. At this point, the boxes of cereal and rice are packed into larger cases, stacked and then wrapped for shipping. This is where the problem lay, says Dover.

“In the packaging department we have six packaging lines that feed into four fully-automated robotic palletizers. We don’t use pallets, so these palletizers stack our [cartons] into unitized loads.”

Kraft’s palletizing units were built by Grimsby, Ont.-based **RMT Engineering**, while its conveyors were supplied by Mississauga, Ont.-headquartered **Rapistan Systems**.

Previously, the unitized loads were picked up by a solitary transfer cart which moved from station to sta-

tion picking up loads, attaching a barcode to them, and then depositing them at a lone strapping station. And therein lay the problem, says Dover.

“[It created] a bottleneck, since every single load from all of those lines goes through the one transfer cart and plastic strapper.”

While the strapping machine had no difficulty keeping up with the throughput, the plastic straps themselves were creating problems.

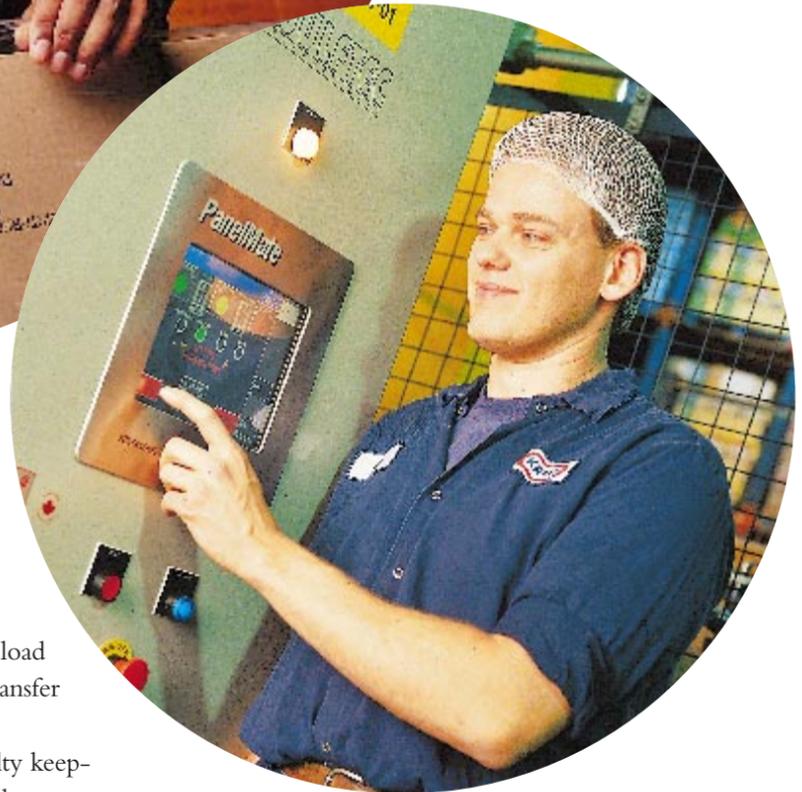
“The first was that a horizontal strap, in order to drive it around the load, had to be fairly stiff. So, the strap that we found worked best with our machine had to have 500-pounds breaking strength, and this is for cardboard boxes full of cereal.

“So, no matter how we had the machine set up, we were damaging cases. What would happen is that strap would cut the corners of the boxes, and to a customer a damaged case [equals] damaged product,” says Dover, adding that the straps weren’t in fact damaging the cereal boxes inside their shipping cartons. Nonetheless, he says, some customers refused to accept shipments when the cartons were damaged.

The second issue was that all important factor: cost.

“The packaging department would put plastic straps on the loads and then the distribution center would stretchwrap them if they were going to be travelling any distance ... doubling the amount of packaging [being used],” he says.

Safety and downtime, that nemesis to all maintenance engineers, were the other concerns Kraft had.



“The plastic strapping machine was extremely complicated and finicky ... Whenever we had a problem with [it], our product would back up until it shut down all the lines while we were working on this little machine,” complains Dover.

Because Kraft uses clamp trucks at its Cobourg plant, the plastic straps would fall off whenever a load was compressed.

Dover recalls: “We had people tripping over straps. In another distribution center someone cut their hand while cutting a strap off. We had quite a few accident reports which could be traced back to the use of this plastic strap, so safety was an issue.”

Thus the die was cast: a replacement for the strapping machine had to be found. It had to be reliable, it had to reduce costs, enhance safety, and it couldn’t damage the cartons.

Oh, and one other thing, because Kraft is acutely aware of the bottom line, it had to offer excellent payback.

“Kraft is a very structured organization, especially with financial approvals. We’re under pretty tight budgetary restraints,” Dover says. “So as a manufacturing engineer,

## Distribution Packaging

every project I do has to show financial payback.

“But,” he adds, “that’s good, it drives us to ensure every one of our projects provides good financial benefit to the company.”

“We don’t do ‘nice-to-haves’.”

Armed with their marching orders, Dover and his co-workers set out to find a solution. It soon became obvious that stretchwrapping was the logical answer, since the cartons were being stretchwrapped prior to shipping anyway.

“What we needed was a system that could replace the old one, keep up with our throughput, and handle our loads without pallets, because we didn’t want to introduce wooden pallets into this equation,” he says.

Kraft doesn’t use wooden pallets on its cereals and rice packaging line, according to Dover, for two reasons. One, there is no room on the line for a pallet feeder, and two, “some of the cereal boxes are just too large, they don’t fit on a standard pallet.”

A pallet-less solution was only one of the challenges facing potential suppliers. Dover says that some of Kraft’s loads are stacked as high as 109 inches: a tough load to move without a pallet underneath. He also says that the stretchwrapper had to reach a speed of 60 loads per hour in order to keep up with established throughput rates.

Out of the competing bids, Mississauga-based **Dynamic Packaging Systems Inc.** proposed the most attractive solution. Dynamic’s offer incorporated a Tornado rotary arm stretchwrapper from Ayer’s Cliff, Que.-based **Wulftec International Inc.**, for less than \$200,000.

Among the reasons for choosing the Wulftec stretchwrapper, says Dover, is the fact that the company went out of its way to accommodate all of Kraft’s requests.

“Our standard for controls is Siemens PLCs, and they could supply Siemens as a standard. [Also], we specified, instead of pushbutton controls, a touch-screen interface, no problem for them. They learned how to program it



and did it in a week,” he says, adding: “In terms of the level of programming skill, I was impressed that whatever we threw at them they could take it and make it happen.”

Although another company offered a bid that was competitive on price, Dover says that the Wulftec machine is superior in terms of construction.

“Wulftec offered a heavier-duty machine, with larger motors, higher horsepower, the right PLC. Everything right down to the structural steel was bigger and stronger.

“So we thought, in terms of durability, we expect this thing to run for the next 20 or 30 years, so it was the logical choice.”

Although the new system has only been in place for three months now, Dover says that Kraft is already pleased

Kraft’s recently-installed Tornado stretchwrapper from Wulftec International has been running without any downtime for three months now, and employees are impressed by its size and durability.

with the results. Carton damage has been completely eliminated, costs reduced, and safety enhanced.

“We don’t have straps lying around getting caught in machinery and being tripped over by people, [and] in terms of downtime, so far we haven’t had any mechanical or electrical faults on the machine. No downtime whatsoever,” he says happily.

All told, installing the new equipment took one weekend and didn’t require shutting down the production line, which currently runs three shifts per day, five days a week, handling about 60 per cent of the plant’s production. During peak periods the facility will run up to seven days a week, and Dover says that the packaging line is expected to operate without any human oversight whatsoever.

“It’s expected to run 24-7 with the only intervention being to change the wrapping [roll], and changing it takes less than a minute, which the operators are happy about.”

What impresses Dover the most about the Tornado is its size and durability: “I’ve read about his (Wulftec founder and president, Wolfgang Geisinger) philosophy of building things strong and sturdy, and sure enough, when people look at the machine, at first they say it’s huge. But everything is sturdy and everything is heavy-duty,” says Dover.

“We don’t have to worry about clamp trucks, for instance, coming down too hard on the conveyors and damaging them or warping them. This machine handles real-world abuse.” □

For more information on:

Wulftec International, Inc. (Agent: Caps) Circle 452

Dynamic Packaging Systems Circle 453

Rapistan Systems Circle 454

# Passing the Taste Test

In any significant manufacturing expansion, choosing the right equipment to match growing production volumes is a key first step in the right direction. For **Tasty Baking**, a well-known east U.S.-based producer of the *Tastykake* brand of snack-cakes, the modernization of its 1940s-built plant in Philadelphia was a must to achieve the company’s strategic plan to expand into national distribution. With the plant’s late-1998 installation of three automatic, bottom-loading Model B-80 case-packers from **Salwasser Manufacturing**, that plan is unfolding as well as the plant’s management hoped.

“We are a baking company bound to the traditions of quality,” says Paul Woite, vice-president of manufacturing at Tasty Baking. “During our recent modernization, our dedication to producing the highest-quality product was always a factor.”

“The Salwasser case-packers had several unique features that we liked—features that handle our delicate products without damage.”

Built by Salwasser Manufacturing Co., Inc. in Reedley, Calif., the three B-80 case-packers installed on the four packaging lines located on the sixth floor of the revamped facility—two single-feed and one dual-infeed system—were designed to enable Tasty Baking to load and seal with hot-melt adhesive up to 1,200 cases of the *Krimpets* and *Juniors* snack-cakes per hour.

“To pursue the national market, we had to increase productivity,” says production director Tom Kenney. “We needed case-packers that could flat-out run fast, without any limitations. That meant not only throughput, but good

product handling, machine durability, and quick changeover.

“We had the highest confidence in Salwasser technology.”

It is at the designated fourth changeover line, where changeovers are made about five times a week—where the case-packers really shine.

Explains plant superintendent Joe Carboy: “In our experience with case-packers, taking an hour to change over is not unusual.

“The Salwasser machines each have a PLC (programmable logic controller) that automatically controls 95 per cent of the changes that need to be made. It takes one operator about 10 minutes to complete a changeover.”

The bottom-loading case-packers accumulate and load the cartons of *Tastykakes* vertically in the same position as the product comes in from the upstream equipment—thus allowing for fragile products and cartons to be packed with minimal product handling.



A primary feature of each packer is a specially-designed loading tube that actually protects the rather lightweight cartons as they are lifted and loaded into the corrugated cases. The tube essentially eliminates any potential crushing that occurs when the cartons’ corners or edges catch on the case edges and corners during the load cycle.

Fitting this modern technology into the plant was initially a challenge, according to Carboy. When it was determined that the standard-sized B-80 models would not be able to fit into the limited space, Salwasser engineers had to custom-reconfigure the technology to accommodate the space constraints without sacrificing the production throughput.

“Not many manufacturers are as cooperative as Salwasser has been,” Carboy says. “They worked with us to change the technology to meet our production goals and fit into our limited space.” □

For more information on:

Salwasser Manufacturing

Circle 457