



Handling With Care

By Anna Wells

K-Tec's approach to lean material handling solutions includes using its own facility as a model.

The facility is cavernous. Wooden pillars only draw attention to the sparse manufacturing floor—there is almost no product here and it's all so... yellow.

The austerity is underscored by roots put down by Kinetic Technology's co-founders, Larry Tyler and John Neumann, president and COO, respectively. The blank canvas of the vast concrete flooring seems to parallel the origins of this company, which started, humbly, with two men and an idea.

Stick A Fork In It

Kinetic Technologies (K-Tec) can be described as a success story, especially since this Wickliffe, OH-based company is competing at the dark-horse racetrack of manufacturing-

depressed Northeastern Ohio. While many manufacturers, it seems, are leaving Ohio, K-Tec is expanding. After a few years of being strictly engineering and design (and contracting out their production), its new facility is now equipped with a manufacturing floor, which will house an estimated three times its current workforce within the next several years.

K-Tec deals with forklifts, more specifically, why they think you shouldn't be using them. "Forklift trucks have somewhat of a tainted record when it comes to safety," Tyler says, "because of the weight of the trucks, and the fork sticking out. Sometimes you can't see people coming out of aisles. Fork trucks are inherently risky."

So K-Tec's solution, grown from an idea over an informal breakfast meeting between then-relative strangers Tyler and Neumann, became an option for facilities to not only prevent fork-related injuries and accidents, but to also increase their efficiency through fork-free's lean capabilities.

Movement Maxed Out

Tyler explains the basic concept: "When you go fork-free, there is no fork truck involved in the production area, and you push everything back to the perimeter of the plant," he says. "And basically, you take this little cart, a towbar comes down, and you hook it up to another cart, and another cart, and there's a tugger—which is like a little golf cart without a

top—and you drive that around and tow your little train behind.”

The cart can then be set up directly in a work cell, so operators can work right out of it instead of a pallet. Explains Neumann, “Say you’re a forklift driver and you take a couple of containers over to my area of the plant. When I’m ready for a new pallet of parts, if it’s 25’ away from me, I either have to wait until you come back, or walk 25’ extra each way for these parts. One of the ways it improves flow is, the materials are exactly where you need them to be. You’re the operator, and here are the materials right next to you. One of the things companies are aiming for, and are very aware of now, is that the operator on the line doesn’t have to do anything superfluous.”

One thing that is important to point out about fork-free, how-

ever, is that this specific solution is more appropriate for some applications than others. K-Tec has most of its experience in the automotive industry, mainly because this industry is constantly bringing in new parts, and the carts tend to be more flexible than a conveyer system. Some facilities, however, like large distribution centers, need the speed of a forklift to maximize transit time. Forklifts are also arguably better for heavier, more awkward loading, whereas fork-free has

applications in smaller quantity split case picking.

GM “Pulls Over”

The story of K-Tec’s development of their fork-free lean material handling systems can’t be told without including their first client, General Motors. “The very first solution is important because it kind of set the stage as to how K-Tec would evolve,” Tyler says, of the experience with GM’s Tonawanda, NY facility. “GM wanted to go forklift-free in an engine plant

and the challenge was, they had at least seven different sizes of containers, and they did not want a proliferation of fleet.” So K-Tec set out to develop a product that could handle all these different types of containers, without saddling GM with multiple models and designs.

“It had to be low, for ergonomic height issues, and it still had to be able to get a lift compressed underneath that frame,” Tyler explains. “It had to be able to rotate, so ergonomic reach issues weren’t exceeded. So we had all the constraints—height and weight and reach and push-pull forces, and seven different sizes, and safety.”

K-Tec developed a prototype quickly based on the demands, leaving time for a testing phase, and GM cut an order for somewhere between 150 and 180 units.

ETO

This was also the beginning of K-Tec’s ETO (engineered to order) concept of doing business. Tyler and Neumann realized with GM how specific each solution would have to be, and this influenced the “early thinking” K-Tec has since harnessed in the design phase.

“What we like to do in order to make forklift-free flow smoothly, is to get in early in the customer’s thinking process... and figure out all the areas of opportunity, and the areas of constraint,” Tyler says. He goes on to describe the process as a “best practices approach,” allowing K-Tec to use previous design experience to troubleshoot possible problem areas before they occur. “It’s not like ‘here’s a catalog.’ That’s not what we do; we’re more interested in how to do it correctly, and do it early.”

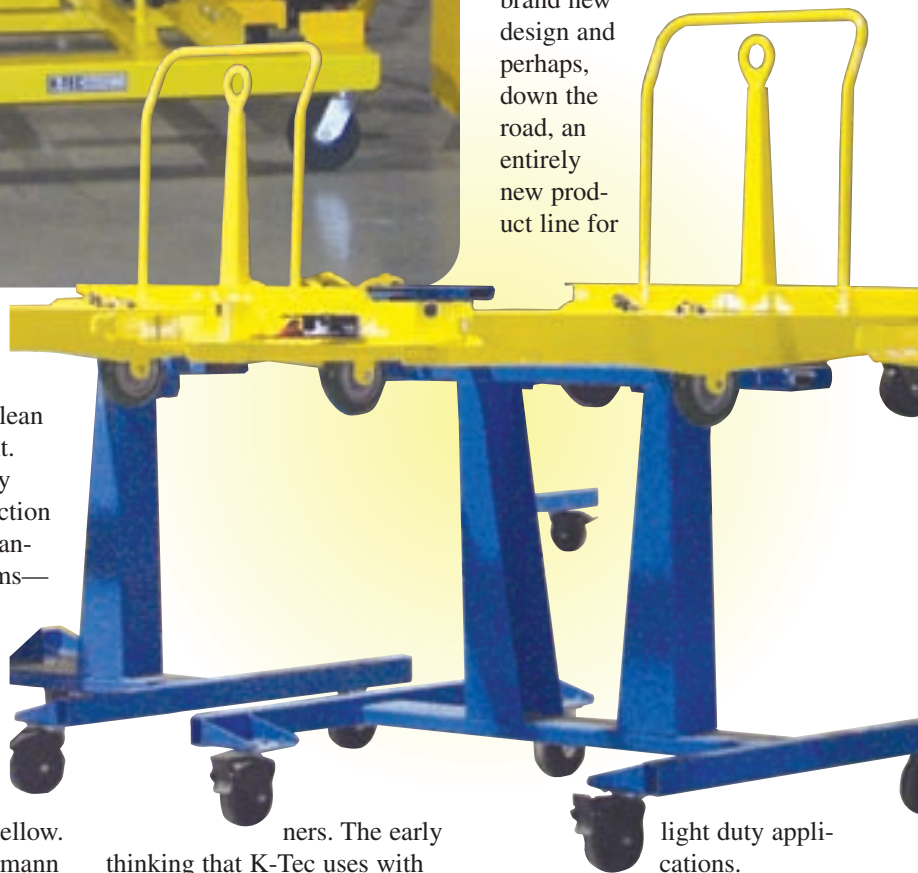
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K-Tec COO John Neumann describes the specific applications of each cart on display. The demonstration area of the facility allows potential customers to see the products firsthand. Soon, K-Tec’s manufacturing floor will become a living demonstration.



Above, K-Tec's signature yellow fork-free material handling carts. Right, carts in the production process.



K-Tec Takes The Plunge

After moving into a new facility and getting manufacturing up and running in October of 2006, Tyler and Neumann decided K-Tec ought to put its money where its mouth was—and take the fork out. K-Tec's list of customers is distinguished—including the likes of GE, GM, Ford and Bosch—but the company decided to take on its most important client—themselves—meaning K-Tec is now in the process of

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creating its own fork-free, lean manufacturing environment.

The company is currently midway through the production of its material handling cart systems—in fact the carts are right now on their way to receive a paint bath in K-Tec's signature primary yellow. Tyler and Neumann seemed to see this lean change as an intuitive, yet difficult step.

“It struck us that, if we're true believers in doing forklift-free, we shouldn't have a bunch of forklifts running around our plant,” Neumann says. Still, just because they were the brains behind this solution doesn't mean K-Tec gets to cut any cor-

sions was, we probably need to do something different than our standard products. So we said, ‘if we're going to design exactly to our needs, what would we design?’”

Using its own business model, K-Tec soon realized that the carts they would best utilize in its own application (which is similar to a job-shop setting where smaller batch, part-specific orders are constantly changing) would be tantamount to a brand new design and perhaps, down the road, an entirely new product line for

ners. The early thinking that K-Tec uses with their customers is, according to Tyler, “spilling over to us.”

Harnessing A Business Model

Neumann explains the roots of K-Tec's new undertaking: “Every place we were using forklifts we said ‘how can we be doing it differently?’ And that led to a meeting between the engineers and myself on what was appropriate in our plant,” he says. “One of the early conclu-

light duty applications.

“On the ETO

side, typically the carts are built to be very robust and heavy duty, so they can last, and survive the abuse that is the everyday life in a big GM or Ford or Honda plant. It's a very tough usage,” says Neumann. “In this application, it has to perform the same way, but the harshness of the environment isn't the same. So we're building them lighter duty on purpose, and it could become a whole new line for

shops that are different than the biggest shops. We're excited about that, because we'd be able to offer product for less money to smaller shops."

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In-House Efficiency

K-Tec looks forward to applying its own model of efficiency to production. For one thing, explains Neumann, "with forks you can move a certain amount at one time. With carts, you can put them in a train and move

more at one time.

Basically, you'd have a lot more forklift trucks running around to do the same thing."

Another lean benefit to fork-free cart systems is a reduction in work in process (WIP) inventory. "Any material you have in the plant, waiting to be used to build product, represents money sitting there," says Neumann. "And if you have more material sitting around, you borrowed more money from the bank, or used your own money, so companies always want to minimize this. Using our products and our way of flowing materials through the plants, customers are able to minimize WIP."

Still, the prospect of going entirely fork-free is not plausible, even for K-Tec. "Almost every plant in the world uses forklifts to load and unload trucks," says Neumann. "And we plan to do that, too."



A work in progress: K-Tec is in the middle of producing lean material handling carts for its own facility (above). "We're also trying to build customer orders," K-Tec president Larry Tyler says of the implementation. "But we'll be there very shortly." Below, K-Tec model designs, engineered to order.

Learn By Doing

In the end, the only way K-Tec will be able to truly measure the lean benefits of the change will be in watching the procedure flourish—a process of learning through experience that Neumann and Tyler seem to have been able to optimize on

behalf of their customers throughout K-Tec's period of growth as an engineering and design company.

If there is one immediate measure of K-Tec's successes, it is in this five-year-old company's impending expansion. Says Neumann, "we build our workforce based on business we win, and we have pretty aggressive plans to grow."

The success that may come with experimentation allows K-Tec to see its product through the eyes of a customer. "We're early enough now in our phase where we can begin to put together systems we believe will work properly," says Tyler.

"Will we learn things? Absolutely. Are we going to be perfect? No. But are we going to be flexible? Yes. So we'll adjust.

"And right now, you put your foot in the water like any other customer, and you build your product on a list of assumptions, and if they don't pan out, you make the move to change. So that's what we're going to do." ▼

