

MAKING THE CASE FOR
**Customized Material
Handling Solutions**



Applying the right forklifts and other material handling solutions to specific jobs, tasks, and moves within your facility drives efficiency, productivity, and cost savings.

No Two Facilities are the Same

INEFFICIENT MATERIAL HANDLING SYSTEMS CUT INTO PROFITS, reduce operational efficiency, and can even create safety hazards for drivers and warehouse employees. When any one of these challenges comes into play, customer satisfaction wanes and productivity lags—two problems no company can afford to have in today’s competitive business environment.

Add the challenges of e-commerce growth, omni-channel, and shifts in major essential supply chains, and patchworked material handling solutions can severely impact operations in a world where no two facilities are alike.

By thinking beyond the cookie-cutter approach and accounting for a company’s manufacturing, packaging, storage, and distribution requirements, customized material handling solutions get the job done efficiently, consistently, and safely.

“Where the e-commerce trend and quicker business pace add urgency in the fulfillment environment,” says Jared Sims, technical services manager at Toyota Material Handling (TMH), “the realities of needing a thorough understanding of your business and finding the equipment to match are clear.”

The demands of a shifting pace transcend the retail environment and expand across the entire supply chain. Manufacturers and distributors face a litany of challenges in their quest to get goods from raw materials to final, delivered product as quickly and efficiently as possible. And because increased customer demands mean shorter delivery windows, this puts even more pressure on suppliers to get their collective material handling acts together.

“Increased pressure on suppliers means added pressure on both manufacturing and transportation,” says Sims, “where customizing fleets helps organizations become as efficient as possible within their parts of the supply chain.” With all links in the supply chain working smoothly, that end-to-end network becomes even more productive, efficient, and profitable.

LOW INVESTMENT WORKS UNTIL SOMETHING BREAKS

In their quest to operate as “lean” as possible, some companies misunderstand lean objectives and opt for the lowest price and quickest fix, hoping that this approach not only pays off, but that it can also sustain itself. Unfortunately, the business world is littered with the remains of companies that adopted this mindset and then suffered major setbacks when a disruption, new industry challenges, or customer shift interrupted their plans.

These lessons can be applied to material handling equipment and forklifts, both of which operate better when companies take a total cost of ownership (TCO) approach versus just trying to solve problems with individual pieces of equipment. “Running low-investment operations works well until something breaks,” says Sims. With customized

material handling solutions, companies can break out of “reactive” mode and effectively optimize their manufacturing, distribution, and retail operations.

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— *Jared Sims, technical services manager, Toyota Material Handling*

Many companies have already invested in customized solutions. Toyota Material Handling’s Columbus, Indiana, location produces about 50,000 lift trucks annually, 78% of which included special design requests in 2019. Sims says the company incorporated about 5,000 different custom builds into its forklift production last year.

“The customization could be as simple as a special combination of lights or as complex as a completely new throttle system—and everything in between,” says Sims. The company also makes forklifts that are pre-loaded with customized, mast attachments that meet the needs of specific product-handling environments, many of which are now focused on digital transformation and e-commerce fulfillment.

Working with one national parcel carrier, for example, TMH fulfilled 93 different special design requests on a single lift truck. Those customizations

included everything from vision systems to RFID scanning systems to load-weighing systems.

“Putting a pallet on a scale and printing off a label are things of the

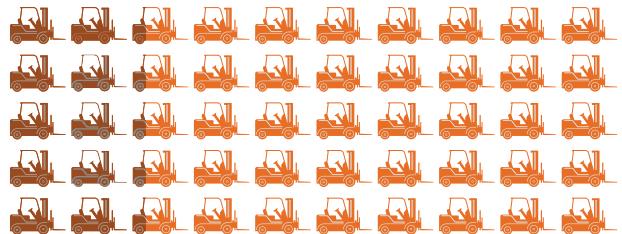
past for this carrier,” Sims explains. “Now, the operator picks up a pallet, which is weighed—and a label printed off—while it’s moving. This helps the company manage a much higher velocity of the product through its operation.”

A CUSTOMIZED SOLUTION TO MATERIAL HANDLING PROBLEMS

To ensure that every piece of its equipment can flawlessly handle specific applications and functions, TMH takes the time to understand each company’s workflows, processes, and existing equipment. This is important because most companies aren’t experts in material handling, nor do they always understand exactly what types of available equipment or forklifts they need to run their operations.

“Our dealership channel works to fill in those gaps and provide truly customized solutions,” says Sims. In this Making the Case, we look more closely at the growing interest in customized material handling equipment, show exactly what goes into these multifaceted options, and explain the value of these investments for some of the biggest warehouse and DC stakeholders.

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with all of those requests handled by TMH’s **North American dealer network**





The Best Material Handling Solutions are Custom-Built

ONE OF THE MOST VERSATILE pieces of material handling equipment, the forklift has come a long way over the last few decades. No longer relegated to selecting off-the-shelf models and hoping that they fit with their operations, warehouse and DC managers can customize their forklifts to accommodate narrow aisles, congested workspaces, hazmat handling, and other specialized applications.

According to Scott Heath, technical projects specialist at Toyota Material Handling (TMH), the customized approach starts with a thorough review of a customer's operations, material handling challenges, and goals. With thousands of successful implementations under their belts, TMH's dealers start by helping customers understand exactly what does—and doesn't—need to be customized in order to attain

optimal performance and efficiency levels.

"A lot of companies get focused on fine details and think their situations are unique, but we've done this so many times that we can quickly tell which aspects of the material handling solution require customization," says Heath, who adds that common special design requests are often eventually converted into standard options.

“We bring the knowledge base and help the customer understand that they’re not alone,” he continues, “and that there’s a tested answer to their problems.” To uncover that answer, TMH’s dealers take the operational

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snapshots they’ve collected and then develop solutions that best fit those environments and the existing applications being used in those environments today, and in the future.

“We want to make sure that the ‘fit’ is expandable,” says Sims, “and that whatever solutions we recommend can scale up right along with the company.”

HOW IT WORKS

At TMH, base forklift configurations are designed to meet all standards and regulations, including OSHA and ANSI. They are also designed to meet basic customer needs across a wide variety of industries. Due to the large

range of use cases, customer applications, industry types, and so forth, building a product that is a complete off-the-shelf is nearly impossible.

“It’s up to each customer to work with their local dealer to customize the forklift to fit their unique operational needs,” says Heath, who points out that standard options do cover a wide range of common customization needs. The benefits of standard option codes include standardized pricing, standard designs, and manageable lead times.

For customizations that go beyond the basic options, special design requests are available and require the dealer to submit a request to engineering for review. A response is provided with pricing, design information, and lead time. “We’ve worked on optimizing this process to meet increasing customer demands,” says Heath.

MEASURING THE REWARDS

When companies customize their material handling solutions, they get benefits like:

- Forklifts that are engineered to their specifications
- Unique modifications that are factory-installed for quality and to ensure regulatory compliance

- The expansive expertise of TMH’s design group, Toyota Special Design Engineering (TSDE)
 - Allowance for design changes through TMH’s quoting process
- Once it puts a customized forklift solution in place, says Sims, the company’s ultimate goal is be an “invisible” partner. In other words, if the right equipment is put in place for the right application on day one, then the company should be able to operate independently of its material handling partner.

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Most times, this requires at least some levels of customization or configuring to meet the specific operation’s needs. “The best we can be is invisible,” says Sims. “If we do need to get involved, we want that process to be quick and provide a seamless solution—but the right customization usually means you don’t need to see us.”



Finding the Right Material Handling Partner

FROM HIS VANTAGE POINT AS AN ACCOUNT MANAGER at Toyota Material Handling Ohio (TMHOH), an authorized Toyota dealer, Tim Malone fields a lot of requests from manufacturers, distributors, and retailers that need customized material handling solutions. Those requests can range from an attachment that helps lift truck drivers operate more efficiently to full fleets of highly-customized forklifts for multiple warehouses.

“It’s really a case-by-case basis,” says Malone. “If, for example, a company recognizes that a specific attachment or forklift will help them become more efficient and profitable, then they’ll invest in it.” Malone says the customization movement has been gaining steam in recent years as companies work to stay ahead of the growth in e-commerce, omni-channel, and other distribution-related trends.

From the dealer perspective, Malone says TMH offers a broad range of customized options across its entire forklift fleet. Its Class I through Class VI vehicles have 3,000 to 125,000-pound capacities, while its electric options offer up to 60,000-pound capacities. It also offers a full array of attachments. “There’s not much that we aren’t able to do for a company when it comes to customizations,” says Malone.

Recently, Malone worked with American Electric Power (AEP), an electric utility that provides power to more than five million customers in 11 states. Up until about two years ago, the company was using LP gas or diesel forklifts. Ready for a change, AEP decided to invest in electric forklifts to support its business.

“A lot of AEP’s work is done out in the yard and when you think about it, electric forklifts and the elements really don’t mix,” Malone explains. “You’re not going to want to take an electric forklift out in the

rain or out in the snow.” To solve this dilemma, TMH makes an electric pneumatic lift truck that’s specifically designed to be used outside while taking advantage of everything that electrical power has to offer.

AEP’s forklifts came equipped with waterproof drive motors and pump motors, each protecting against the elements that the company faces on a day-to-day basis while helping them maintain their commitment to an electric fleet. Malone and TMHOH were also able to account for the long-term impact of AEP’s outdoor use, customizing the specs of the forklifts to include anti-rust carriage rollers.

“Toyota strategically placed sensitive components in an area that aren’t going to be affected as much by the elements, which allows them to be able to work outside using their electric forklifts,” says Malone. “It’s really worked out well.”

Speaking to companies that are considering a customized material handling strategy, Malone says to look for a vendor that has built its reputation on quality, reliability, and durability. Find one that can cover all facets of your material handling needs and has great experience in handling custom jobs, making forklifts that fit a wide variety of operational needs.

“Find a vendor that knows its products well,” says Malone, “and puts the time into getting to know your operations and its specific needs.”



MAKING THE CASE FOR Customized Material Handling Solutions

When companies invest in customized material handling solutions, everyone wins.

FOR THE FACILITIES MANAGER: Charged with facilitating the flow of materials through the warehouse or DC—plus the material handling equipment, forklift fleets, and other equipment needed to make that happen—facilities managers win big when their companies invest in customized material handling solutions.

Heavily involved both with fleet equipment and warehouse equipment, the facilities manager helps push the company toward its productivity, efficiency, and safety goals on a day-to-day basis.

When a customized material handling solution is deployed in this setting, the facilities manager gains instant access to the process known as “fleet averaging,” whereby equipment is used across multiple different functions (versus just sitting idle when not in use). When forklifts are customized to specific companies and functions, they become more valuable to the entire enterprise. This also prevents service groups from having to make forklift customizations on the fly.

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“Many fleet managers are responsible for their own service groups,” says Scott Heath, technical projects specialist at Toyota Material Handling (TMH). “In the absence of a customized approach, they have to make those modifications themselves.”

Using a customized material handling solution, the facility manager can select the right equipment, features, and attachments in the beginning, thus eliminating the need for aftermarket work down the road. “They can focus on the rest of their facilities,” says Heath, “and not have to worry about their forklifts.”

FOR THE LOGISTICS MANAGER: Responsible for getting product in and out the warehouse or DC door, logistics managers think a lot about cycle time and about how they can move a piece of merchandise as quickly as possible and with the minimum amount of damage.

Achieving this goal can become extremely difficult during peak and seasonal rushes, when temporary workers have to be able to use a forklift to keep the materials flowing smoothly through the facility.

“With a customized approach, you can have one forklift for multiple jobs, effectively making the vehicle more flexible and adaptable during peak seasons,” says Heath.

A customized approach also helps ensure that all hour meters are kept in sync, thus ensuring that the company is maximizing its utilization of a piece of equipment. “In some cases, that can be as simple as using quick disconnects on an attachment,” Heath adds, “and then quickly swapping out the attachment to a different vehicle.”

“Just because you invest in a custom package today doesn’t mean that same package is going to work 6-12 months from now, and we know that. We take that into considering when putting together customized packages, and do everything we can to future-proof those solutions.”

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FOR THE CEO OR COO: Customized material handling solutions help C-level executives minimize their equipment investments while at the same time maximizing utilization of that equipment. “We don’t want companies to have a single piece of equipment that they don’t need,” says Heath, “and that requires a precise, customized approach that’s made to fit a specific operation.”

This, in turn, translates into high utilization rates and good overall ROI for the equipment investment. Other

key wins for the C-suite include higher productivity, lower total costs of ownership, and improved safety. Customized packages also factor in the future and help companies prepare for what’s ahead, be it the addition of a new plug in a truck, on-site fleet alterations, and other changes.

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Getting Solutions into Customers' Hands Faster

In the U.S. alone, nearly 540,000 forklift operators climb into their trucks every morning and then spend their days helping to make sure the world's supply chain networks run smoothly. Whether they work for a retailer that's closing last-mile gaps, a distributor that's sending products around the world, or a manufacturer that's making essential supplies, these drivers need custom-built solutions that fit their workstyles.

For many forklift operators, the forklift is their office. Outside of personal breaks and maintenance stops, they spend the majority of their day on a truck, and the way they interact with that equipment has a big impact on overall productivity and safety.

Working on the front lines with companies and their drivers, Toyota Material Handling (TMH) has its finger on the pulse of warehouse and DC operations that need its solutions. For many of these operations, a customized approach makes the most sense.

"We're not just looking at supplying a forklift," says Scott Heath, technical projects specialist at Toyota Material Handling (TMH). "We're really looking at providing a complete solution, whether that solution is a forklift, automation, or some other solution. We're invested in our customized solutions, and we are here to answer all of our customers' questions to help them understand that this is a pretty straightforward approach to material handling."

Put simply, TMH has been there before and worked with companies across all industries, helping them develop and extract the biggest benefit from their customized material handling solutions.

"We have a group of engineers that's responsible for coming up with customized options, and for taking one-off solutions and integrating them into our offerings for other customers," says Heath. "On the front end, we strive to understand the customer's needs and then we work with our engineers to develop a package that includes options that we may already have in-house—and that allows us to get product into the customer's hands faster."



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