



THREE LAYERS OF FORKLIFT SAFETY: PROMOTING OPERATING BEST PRACTICES

Is your operation doing enough to support lift truck operating best practices? The truth is, there's no single, silver bullet – forklift safety requires a comprehensive, multi-faceted approach, including training, real-time support and monitoring, and reactive evaluation after-the-fact. Not only that, but those elements must evolve over time, as technology makes a welcome impact to advance training, lift truck stability and ongoing coaching.

According to the National Safety Council, work-related illnesses and injuries cost \$171 billion annually. And according to data from the U.S. Bureau of Labor Statistics, more than 7,200 nonfatal injuries due to forklift incidents occurred in 2020 alone.

In addition to the high-stakes challenge of safety, high-intensity operations must get the most production out of a limited labor pool – and it is *very* limited. According to a 2022 survey, finding and retaining enough labor was a top challenge for more than half of the supply chain businesses that responded. From finely tuned port settings to manufacturing facilities around the world, how are operations trying to bridge the gap? An extreme example is an abandoned proposal in Australia that would have allowed juveniles to operate forklifts.

Inexperienced operators and skeleton crews exacerbate the challenges that businesses face, but forklift safety remains essential in keeping operations moving and hitting supply chain targets on-time and on-budget. This white paper explores how lift truck operations can leverage the most comprehensive forklift safety strategy, and why this is nonnegotiable for high-intensity applications.



THREE LAYERS OF FORKLIFT SAFETY PRACTICES

TAKE OPERATIONAL SAFETY TO THE NEXT LEVEL

TELEMETRY MONITORING

Enables supervisors to monitor and audit operator performance in real time for more informed training and management decisions.



FORKLIFT TRAINING

A professional-grade operator training program is the solid foundation that teaches best practices.

ENHANCED STABILITY SYSTEM

Helps reinforce best practices through automatic adjustments to equipment performance and real-time alerts to inform operators of the cause of adjustments.

// TRAINING: BUILD A STRONG FOUNDATION

Operator training is foundational to forklift safety. Full Occupational Safety and Health Administration (OSHA) lift truck operator certification requires formal instruction, practical, hands-on training and operator evaluation. The OSHA certification process also requires operators to be trained and certified by the employer in the use of their equipment at their specific job site before being allowed to operate it as part of their work. No two operations are the same, so it is critical to strategize a training process tailored to equip your operators for the specific needs and challenges associated with your unique facility, workflows and lift trucks.

There are choices for how to structure the format of a training program, including technology-enabled options, which may be especially valuable to consider if an operation is onboarding and training new operators with relatively high frequency. While human delivery of

information can naturally result in some level of variance - from instructor to instructor, or session to session - a training format in which the trainer leverages packaged, digital material can help minimize inconsistencies like significant differences in messaging or incomplete lessons. Equipping trained trainers with digital modules, webinars and on-demand "micro-learnings" that they can supplement and reinforce in real time can help keep content consistent, while also taking advantage of contemporary adult learning methodologies that help learners engage with the material and ultimately better comprehend the skills and knowledge needed to be an effective operator. For instance, some training programs offer shorter video sections interspersed with hands-on learning, providing consistent instruction in a structure designed with enough variety to keep trainees engaged. This consistency is especially attractive to busy manufacturers and other operations that must scale up high volumes of new lift truck



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operators quickly due to turnover or seasonal upticks, without overwhelming in-house training resources.

Another way that technology can help support the operator training process is through immersive simulation. Forklift operators can use virtual reality (VR) simulators to practice new skills, better familiarize themselves with operating a new type of truck, working in a specific environment and more. Simulation can help reduce training liabilities or damage, while allowing operators to make mistakes and get additional learning exposure in a controlled environment. But like the other tools, VR training should be viewed as a supplement. It is not a replacement for hands-on forklift training.



// TELEMETRY: MONITOR OPERATOR PERFORMANCE IN REAL TIME

Telemetry systems can track several aspects of fleets, from equipment diagnostics and utilization to individual operator performance. All this information can be accessed in real-time via desktops, laptops and mobile devices to make informed fleet management decisions and assist with managing operator behavior. Tracking truck information by the specific operator provides visibility to information like travel locations and idle time. Some systems even have impact monitoring functionality that provides managers with notifications when impacts happen, with information about where the incident occurred and who was operating the truck. This data can be used to help identify high performers who deserve recognition and those who may require more training. Certain systems can also be used to apply equipment performance limitations based on operator experience and skill level. For example, new hires might have their trucks capped at slower speeds to help reduce potential risk, while more experienced operators can have controls set to allow access to higher levels of equipment performance.

Telemetry tailored to operator development

- Restricts equipment access to only operators with proper certification for that truck type.
- Controls who can start equipment, through individual access cards with operator certification information encoded.
- Provides automatic notifications when operators have certifications expected to expire soon.



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// OPERATOR ASSIST SYSTEMS (OAS): EQUIP OPERATORS WITH SUPPORT

Telemetry is actually part of a broader category of products and technologies designed to assist lift truck operators, known as OAS. This umbrella term encompasses a variety of other solutions, from alarms to pedestrian awareness lighting like strobe or curtain lights that present reminders for those walking or working in proximity to lift trucks in operation. While telemetry can help facilities monitor and reactively address operator behavior and truck impact events at their facility, another type of OAS, integrated stability control systems, offer a more proactive approach to help minimize certain tip over risks and automatically reinforce safe operating practices.

One such solution, the Dynamic Stability System (DSS) from Hyster, promotes lift truck stability by applying limitations to truck performance in certain conditions, accompanied by audible and visual alerts that communicate the cause of the intervention to the operator. These automatic interventions happen in real time, helping to support stable travel and provide operators with an immediate layer of feedback that can help reinforce the proper lift truck operation established during their training.

This innovative technology is made up of four sub-systems:

- **Lateral stability** reduces truck lean in turns, to help reduce the likelihood of sideways tip overs. The steer axle is designed to allow for superior travel over uneven surfaces.
- **High-lift tilt control** limits tilt speed and forward tilt range when the carriage is raised above the height threshold while carrying a load.
- **High-lift traction control** limits truck speed when handling an elevated load if the carriage is raised above the height threshold.
- **Corner control** dynamically limits speed when driving around corners, based on how tightly the truck is turning. Truck speed is limited in a manner which produces a smooth deceleration.





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An important factor to take into account when considering an integrated stability system is the amount of maintenance these types of systems demand. Some require operations to keep up with maintenance that can be both frequent and involved, needing weekly inspection and lubrication as frequently as every 250 hours. In fast-paced operations pushed to the limit, keeping up with such frequent maintenance is a tall task. But not all systems require maintenance as frequently, or even at all. To understand the level of effort and cost involved with system upkeep, ask the supplier as part of your vetting process.

Stability control in action


Heavy loads, tough environments – safety is critical in material handling. How can systems designed to support confidence and safe operating practices keep pace? On the production floor, stability systems offer a helping hand to operators in real time, while keeping the operator in command of the truck. Picture this:

- An operator retrieves a load stored at height. When they back up and move while lowering the load, the system automatically prevents them from driving too quickly and limits forward tilt to support stability.
- As they travel between point A and B, including around corners, the system limits speed based on how tightly the truck turns, while also working to reduce truck lean.
- The operator is not left in the dark – visual indicators on the truck display and audible alerts supplement the noticeable feedback from performance reductions to let operators know the system is intervening with real-time input.

// SAFETY IS NONNEGOTIABLE

As businesses continue to demand more from supply chains, safety must remain in focus. Training is the tried-and-true foundation, and technologies are advancing to provide support for businesses striving to help operators be better equipped to perform properly and stick to those best practices. The key is a layered approach and remembering that no two facilities are alike. Managers must choose the right training protocols and safety tools best suited for their operation, employees and equipment.

To learn more about how Hyster can help you build robust strategies to support your safety initiatives, contact a solutions expert at your local [Hyster® dealer](#) or visit [Hyster.com](#).

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