

The Lean Loading Dock

5 Tips You Can Use Right Now to
Improve Your Warehouse Safety and Workflow



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Introduction

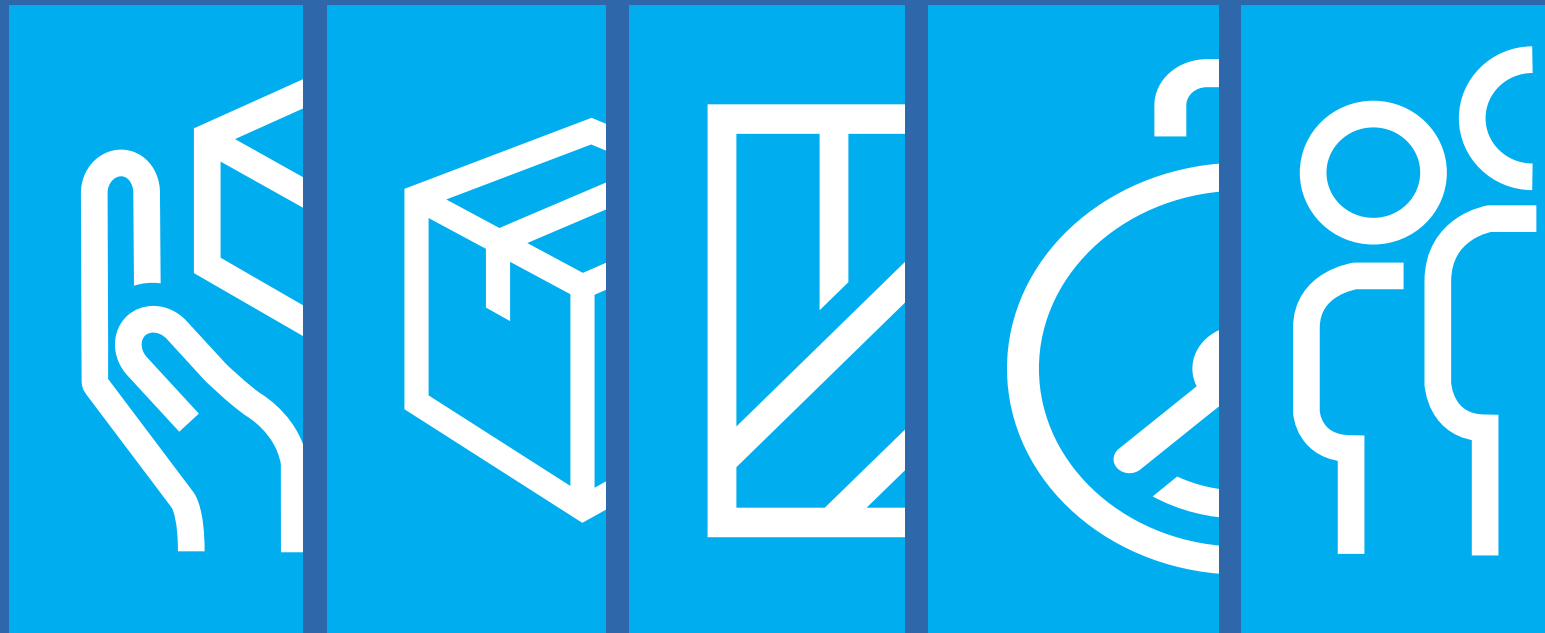
The loading dock area is often the most neglected part of the warehouse.

But it shouldn't be.

It's a common location where loads of valuable product are prepared for shipment and packed into trucks.

This is also a place where employees are at a high risk for injury. Accidents and monotony contribute to expensive turnover.

We've put together five tips to help make your loading dock a safer and more efficient area for your employees. You'll also learn about the hidden costs sucking your bottom line dry.





Tip #1 – Implement simple safety improvements

“Safety is value-added, and hazards are waste,” says Lean expert Damon Nix of the Georgia Tech Research Institute.

As the hub for pedestrian and forklift traffic, the loading dock is one of the busiest places in your facility.

Injuries on loading docks account for 25 percent of all reported injuries within supply chain facilities, according to *Material Handling and Logistics*.¹ Not to mention, American industries are losing about \$336 billion annually to workers’ non-fatal injuries, according to the National Safety Council.²

So it’s even more important to take measures to keep your employees safe.



Here are the **major causes of injuries**:

- **Forklifts overturning**
- **Trips and falls**
- **Chemical spills**
- **Debris on floor**
- **Material handling (lifting)**
- **Unguarded machinery**
- **Fires**



Tip #1

Reduce injuries by doing these things:

- **Keep the warehouse and dock organized. The Occupational Safety and Health Administration (OSHA) suggests that the aisle ways are clear, clean, orderly and uncongested.³**
- **Install spotlights on forklifts so visibility is high.**
- **Install loading dock safety nets to prevent people from falling off the dock.**
- **Separate pedestrian and forklift traffic to decrease the risk for accidents.**
- **Perform preventive maintenance on equipment, including forklifts and stretch wrappers.**



¹ <http://mhlnews.com/warehousing/forgotten-risks-dock>

² <http://consumer.healthday.com/encyclopedia/work-and-health-41/occupational-health-news-507/warehouse-workers-646923.html>

³ <https://www.osha.gov/>



Tip #2 – Identify and fix the bottlenecks



You've experienced a hold up before – during a long wait in line at the grocery store check-out when you're starving for that frozen pizza and, often, in your own warehouse or dock.

A truck may arrive and wait for hours before someone loads product onto it. Every minute a truck is parked, you're losing money.⁴

The trucks are waiting because no one has alerted the loading dock of their arrival. When someone's able to load the truck, the forklift for the task is unavailable. You later find out the person responsible for notifying the dock of the truck's arrival has been promoted to a different position in your company, and no one reassigned the job.

These are common examples of bottlenecks, when input comes in faster than the next step can create output. These situations can cause unnecessary employee stress, wasted costs, delayed shipments, a less-than-quality product, revenue loss and customer unhappiness. And it creates chaos that saps the satisfaction from your job.

You can identify the causes of bottlenecks, some easier than others, and come up with solutions.

Here are the **two common indicators** of bottlenecks:

- 1. Long wait times** — Example: Your operator can't stretch wrap his load because he doesn't have a forklift to move the load to the stretch wrapper. The warehouse order picker is using the forklift.
- 2. Backlogged work** — Example: Because it's the holiday season, the warehouse order picker is over worked. He's picking 5 times the amount of orders he normally picks and is moving them back and forth with a forklift from the warehouse to the dock.



Tip #2

Create a flow chart to help figure out where the bottlenecks are occurring. Map out your processes step-by-step to pick out problems. You may also want to try out the “Five Why’s” (or as many as it takes) technique, one of Toyota’s Lean concepts. Ask yourself why the problem is occurring and then keep asking “why” over and over again until you get to the bottom of the issue.

Trucks are waiting for hours before they’re loaded. *Why?*

Because the forklifts aren’t available to move the loads. *Why?*

They’re all waiting to wrap the loads that have been built. *Why?*

There’s a single wrapper on the loading dock which can’t keep up at peak times.

Now you can pinpoint the problem and offer a solution. Investigate moving the machine to wrap loads as they come from production into the warehouse prior to staging on the dock.

Another way to keep up with a high volume of loads staged for wrapping is to use machines that have the capability to eliminate double handling of loads. These stretch wrappers can wrap one load and then move it aside to a conveyer. Then it’s immediately ready to accept the next load.

⁴ http://www.mindtools.com/pages/article/newTMC_76.htm



Tip #3 – Unitize loads efficiently and take steps to reduce the risk of product damage

How are your operators unitizing loads before they move them onto the back of the truck?

More than likely, they're stretch wrapping loads with stretch film to get them safely from your dock to your customers.

But are they doing it the best way possible?

Maybe you're hand wrapping or using an antiquated stretch wrapper with no productivity features.

If you're still wrapping loads by hand, understand that your operator can't do it as well as a machine. Machines are safer and more consistent than people when it comes to hand wrapping.

The most efficient stretch wrappers in the semi-automatic class have added "Simple Automation" – the ability for the stretch wrapper to catch the film at the end of the wrap cycle and start the wrap cycle without dismounting the forklift to attach the film to the load.

Often the full scope of damage from poorly wrapped loads isn't relayed to the loading dock. But ask around a bit. Even if you haven't heard negative feedback, it doesn't mean damage isn't happening. A full 1/2 percent* of total shipments are damaged on the way to their destinations, sucking billions of dollars in losses out of companies' pockets every year. That's a lot of wasted money that could be spent on loading dock upgrades and training.



GOOD LOAD

VS.



BAD LOAD

{Tip #3 – Unitize loads efficiently and take steps to reduce the risk for product damage - continued}



Tip #3

Read these **6 steps** you can take right now to lower your risk of shipping damage.

- 1.** Everyone's under source reduction pressure. If you down gauge primary or secondary packaging materials like boxes, be sure they still have enough stacking strength.
- 2.** Build loads that fit within their pallets. Overhangs are an invitation for damage. On the other hand, too much underhang (when the load is too far in the middle of the pallet), the load becomes harder to wrap.
- 3.** Avoid building loose or irregular loads.
- 4.** Place loads flush against one another when loading trucks. Gaps between loads can cause transit damage.
- 5.** Improve your stretch wrapping standards. If you were to change one thing right now, apply the minimum amount of force of the film everywhere – top, middle and bottom – on the load.
- 6.** Know what a good load looks like and strive for it.
 - a.** Enough containment on the top, middle and bottom of the load.
 - b.** The load is locked to the pallet.
 - c.** No dragging film tails.



*Based on the 2008 Joint Industries Unsalables Report: The Real Causes and Actionable Solutions. Copyright 2008 by the Grocery Manufacturers Association and Deloitte Consulting LLC.; Data also based on Lantech research and field experience.



Tip #4 – Automate tedious processes

“Technology is nothing. What’s important is that you have a faith in people, that they’re basically good and smart, and if you give them tools, they’ll do wonderful things with them.”

*– Steve Jobs,
former CEO of
Apple Inc.*

Your smart phone makes your personal and professional life easier. You can check your email, snap photos and make calls – all on one device.

And now, new technology in and around the loading dock can make both your job and your employees’ jobs easier.

Try out these ideas to **improve efficiency**.

1. Upgrade or buy management software.

Ditch the handwritten data and replace it with a good warehouse management software that can better track your stock and when and where it’s supposed to be shipped out. Systems also notify you if your shipments are delayed and when they arrive to customers.

Management software can improve loading dock visibility, can coordinate live and staged trailers and manage turn times. For example, sensors on dock doors notify you when a truck has pulled up or left the dock. When sensors detect an empty dock door, the doors automatically close. This prevents people from falling and keeps air-conditioned or heated air from escaping.

2. Automate stretch wrapping.

Replace hand wrapping or an antiquated stretch wrapper (two situations that waste important skilled labor) with a modern semi-automatic stretch wrapper. Machines wrap so much better than people and can help you save labor and film costs.

Some stretch wrappers also increase productivity by combining tasks. For example, you can weigh loads while you wrap them. You can even use a smart phone app to control the weight indicator and store weight information without having to leave the forklift. After all, lost time equals lost money.



Tip #4

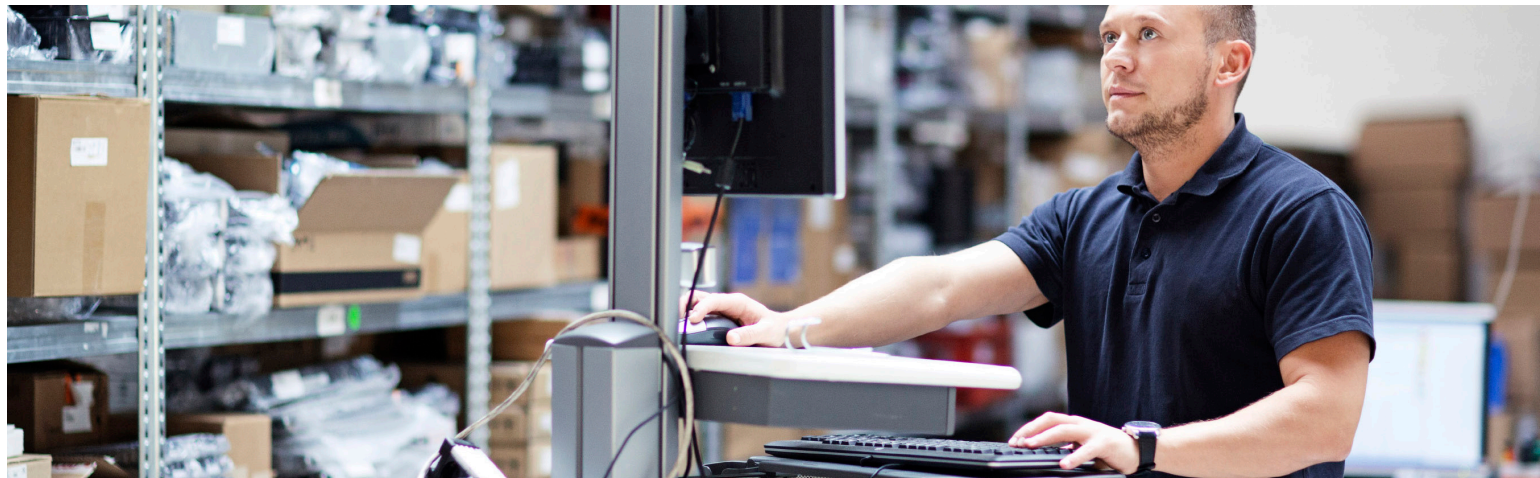
Try out these ideas to **improve efficiency**.

3. Install video cameras.

Some video technology provides remote control scanning of truck activity at the docks, or in the parking lot. Via a monitor, guards can watch trucks pull in doors and determine how long they've been there. Anyone can remotely and safely guide waiting trucks to loading dock doors as soon as the docks become available. The loading dock is the least secure area of the plant. So as a plus, your video surveillance may prevent theft or even vandalism.

4. Create work stations.

Use mobile computer carts with a power pack to eliminate unnecessary foot traffic. Instead of walking back and forth to a computer or printer in another room to print labels or scan documents, collect the data in one place.





Tip #5 – Invest in your people to prevent turnover

Keep your employees happy. Employee turnover in U.S. manufacturing jobs is 20-30 percent, which is higher than ever. Aim to have your turnover rate at less than 5 percent. Your work culture affects the quality of your product and keeps costs down. For every employee you lose, you have to hire and train another one. On average, to train one manufacturing employee, it costs a company \$8,000 over a period of six months.⁶

While money drives people to a company, low job satisfaction can drive people away from it.

Creating an employee-centered culture helps prevent employee turnover. While you may not have the seniority to implement every change in your company, you can sell your good ideas to senior management. Here are a few ways to improve employee happiness and ultimately boost retention.

1. Improve working conditions.

- Eliminate hard and tedious work.
- Get a stretch wrapper.
- Install ventilation panels. Excessive amounts of carbon monoxide from forklifts and trucks can poison and sicken people.
- Install industrial fans.
- Seal dock doors to keep people warm and dry.
- Separate pedestrian and forklift traffic.
- Consider advanced light communications systems.
- Improve the brightness in the dock area.



Tip #5

2. Offer training programs.

By offering training programs to develop skills, employees will have the knowledge to take on more responsibility and grow within your company. They'll want to remain with your company, if they can see the potential for growth.

3. Encourage healthy habits.

Employees and their families may appreciate free yearly biometric health screenings and smoking cessation programs, especially if your campus has transitioned to smoke-free. Also consider leading a department softball league or running group in the warmer months.

4. Don't forget mental health.

Stress is part of every job, but the balance between work and personal life can easily spiral out of control. Everyone struggles with family or financial problems at some point in life. Research proves excessive stress and distractions can lead to low productivity. That's why employee assistance programs can greatly benefit employees and their families. Employers can partner with assistance programs to match people with local therapists, counselors and financial coaches.

“Employees who believe that management is concerned about them as a whole person – not just an employee – are more productive, more satisfied, more fulfilled. Satisfied employees mean satisfied customers, which leads to profitability.”
– Anne M. Mulcahy, she is the former CEO of Xerox Corp.

⁶ Lantech original research

Final thought

As you know, making your loading dock run safer, faster and cheaper is easier said than done. But when you take baby steps toward big and small changes, you'll actually get results. The key is to actually start making progress.

Remember, Lean is about doing more with less. When you eliminate the things that don't add value – extra and missed steps, forklift and pedestrian congestion, bottlenecks that hold up projects, poor load preparation – your shipments will arrive on time, and arrive damage-free.

And your customers will keep coming back, day after day, year after year.

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