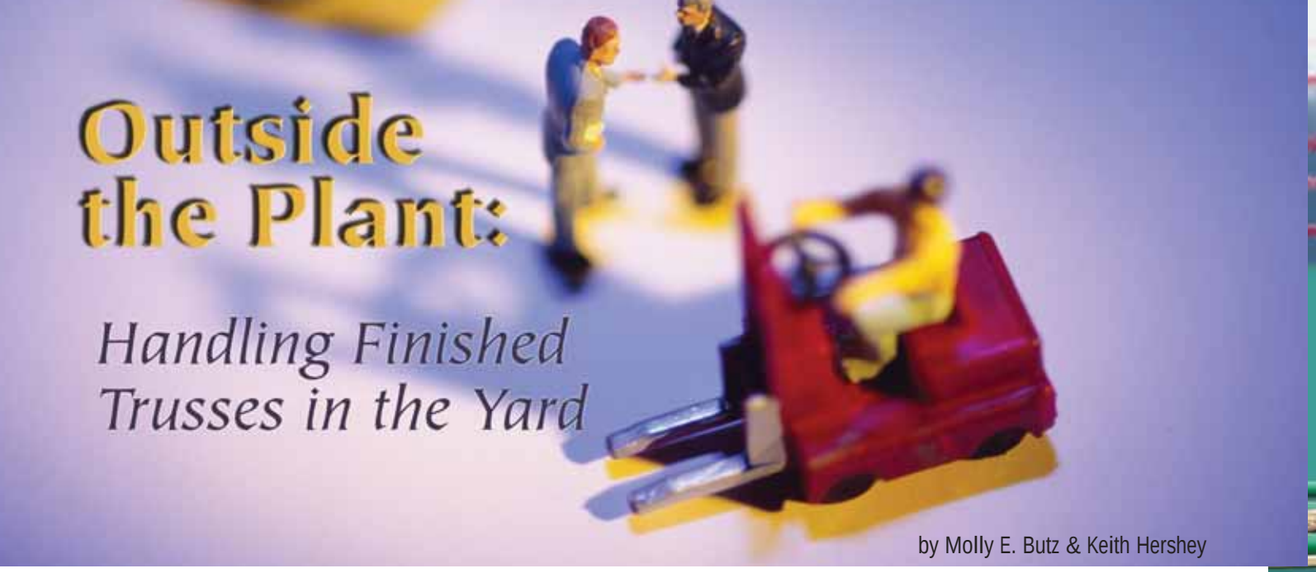

Outside the Plant:

Handling Finished Trusses in the Yard

by Molly E. Butz & Keith Hershey

Trusses present a myriad of handling risks, so being on top of potential safety hazards is key.

In a component manufacturing plant, there are various materials that must get moved from one place to the other. From bunks of lumber to boxes of plates, there are probably days you find your forklifts are your best friends. However, some of the most precious cargo your forklift operators are asked to carry can also be the most difficult to lift, move and deposit. Let's explore together the ins, outs, ups and downs of handling finished trusses at your facility.

Handling finished trusses in the yard can be a daunting task. Unlike square, more standard loads (boxes of plates, for example), trusses present a myriad of handling risks that run the gamut from unusual centers of balance to cramped storage spaces. The following four areas of concern will help you identify the hazards and reduce the risks associated with handling finished trusses: forklift limitations, truss limitations, storage and loading.

at a glance

- ❑ Four areas of concern will help identify the hazards and reduce the risks associated with handling finished trusses: forklift limitations, truss limitations, storage and loading.
- ❑ Use a proper spreader bar to transport long span trusses.
- ❑ Trusses are not designed to carry significant amounts of lateral load which means that pressure placed on the "face" of a truss can cause damage.

Forklift Limitations

Although understanding your forklift's limitations is important no matter what you're transporting, it is of particular importance when loading, unloading and moving finished trusses. The first thing to keep in mind is that each forklift is rated for a specific load weight. Lifting a load that is heavier than your forklift's capacity will compromise your safety and the stability of your load. However, your forklift's stability or center of gravity can be affected by numerous things, including:

- Moving the forklift with an elevated load
- Trying to turn the forklift while moving too fast
- Operating on a hill or incline
- Starting or stopping too fast
- Tilting a load toward or away from the forklift

For the most part, trusses can be considered light weight; however, when two or more loading conditions occur at the same time, the combined forces can overload the forklift. For example, if you are transporting long span trusses lying flat on the forks rather than using a proper spreader bar, traveling over uneven surfaces will cause the ends of the trusses to begin bouncing. This force can greatly multiply the load on your forklift and in some cases pick the rear wheels up off of the ground, even if the load is well within the capacity of the forklift.

You'll also find that keeping your forks low to the ground and operating the lift at a reasonable speed will minimize your potential for danger. These may seem like com-

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mon sense practices, but when time is of the essence, it's easy to forget!

Truss Limitations

Trusses need to be handled with care. Yes, each truss is designed and engineered to handle a specific amount of vertical load; however, trusses are not designed to carry significant amounts of lateral load which means that pressure placed on the "face" of a truss can cause damage (see Figure 1). This certainly does not mean that you cannot handle trusses in this orientation, but it does mean that extra care should be taken so that unnecessary stress is not put on the truss. As noted before, long span trusses tend to bounce while being transported. The bouncing that occurs causes stress at the plated joints and on the web members; trusses are not designed to withstand those types of stresses.

It is also easy to damage the webs and metal plates of a truss if care is not taken in inserting the forks and lifting them properly. In addition, trusses should not be picked up using only one fork. This also puts undue stress on the plated joints and web members. The best practice is to handle the trusses in a vertical position as much as possible and to transfer them to and from a lateral position only when required, plus by tightly banding groups of trusses together, any pressure will be distributed over the entire load.

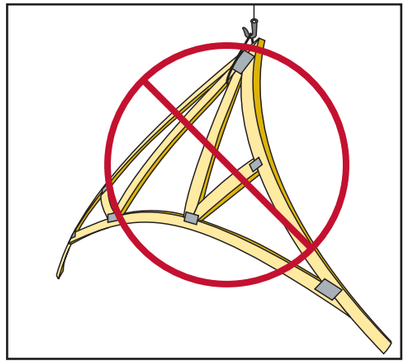


Figure 1.

Keeping forks low to the ground and operating the lift at a reasonable speed will minimize the potential for danger.

Storage

No matter how you choose to store your finished trusses, either in vertical stacks or lying flat on the ground, there are several key components to storage that will help you to ensure your finished products stay in good shape before loading them for delivery.

Trusses or truss bundles stored flat on the ground should be raised a few inches by blocking at 8' to 10' on center. In addition, if you will be stacking multiple bundles of trusses, there should be blocking in between the bundles also at 8' to 10' on center. These blocks allow for the trusses to easily be stored and retrieved by a forklift without damaging the top or bottom chords, webs or plates. Solid vertical backing will also make stacking the trusses easier and also prevent the stacks from tilting backward and potentially tipping over.

Trusses or truss bundles stored flat on the ground should be raised a few inches by blocking at 8' to 10' on center.

Vertical stacking requires sturdy back and bottom supports for storing the banded groups of trusses.

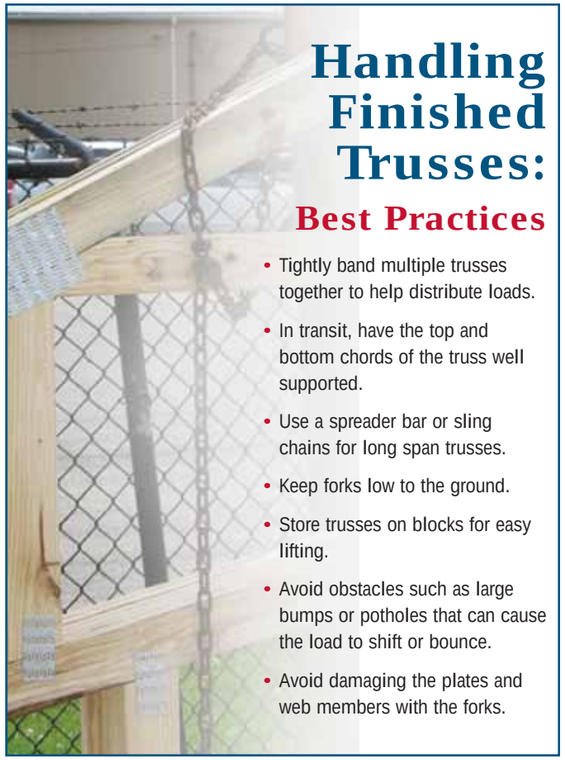
Vertical stacking presents similar stability needs which include sturdy back and bottom supports for storing the banded groups of trusses. The vertical and horizontal supports should be spaced every 8' to 10'. Another option is to place the horizontal supports at the bearing points on the trusses. In either case, the trusses should be banded together and then banding or strapping should be used to secure the trusses to the back support posts to keep them from tipping or blowing over if it becomes windy.

Loading

As you prepare your trusses for delivery, a certain amount of caution must also be used when loading them onto the truck. One of the most important things to remember is that the load needs to remain even and level to prevent damage to the trusses. Shifting during transit can cause unnecessary stress and result in broken webs and plates, which can mean time and money.

You'll also want to be sure that the forklift operator is careful not to dent one of the side tie-downs or tear up the bed of the truck during the loading process. Miscalculating the height of the truck bed or dragging the fork tips on the bed can cause a serious amount of damage. And, to avoid an accident or injury, it's always best to make sure there are no other people or equipment in the area while loading is occurring.

Handling finished trusses in the component manufacturing yard can be a little tricky, but with some extra care and a pinch of planning, ensuring your trusses get moved, stored and loaded in great shape can be easier than it looks! SBC



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