



Distribution Center MANAGEMENT

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Managing people, materials and costs in the warehouse or DC

From the Golden Zone

How to create additional warehouse storage space “out of thin air”

By Art Avery

In 37 years of working to find more storage space than managers and owners had thought possible, four factors have emerged as the most critical in getting maximum results.

Does your warehouse have any of these common causes of space shortfall?

Are you currently using one or more sit-down fork trucks?

While well-utilized LPG, sit-down fork trucks last nearly forever and can be purchased cheaply, they require 12- to 13-foot-wide aisles when used for floor or pallet rack storage. Obtaining a narrow-aisle stand-up fork truck can reduce aisles to only 8 1/2 feet wide, freeing 35 percent of the aisle space for additional rack or floor storage. Using a walkie-stacker electric truck will reduce aisle width even further to as little as 6 1/2 feet in low-demand warehouses.

How much of the available building cube are you actually using?

If you can stand in the dock area or at the ends of the aisles and see a lot of empty space overhead, then your usable storage capacity can probably be greatly increased by using proper racking strategies to utilize the wasted building cube.

How deep are you storing palletized product in racks or on the floor?

If you have large numbers of pallets of fast-moving or high-cube products, then it is possible you could be storing them four or five pallets deep instead of one deep in back-to-back pallet rack. Nothing beats deep storage three or four pallets high on the floor or in special deep storage racks for maximizing holding capacity.

Do you have a shelf pick area taking up a large part of your warehouse?

If so, are your aisle sizes and pick cart sizes optimized to maximize holding capacity while using a minimum of building footprint? Also, are you fully using overhead space in the shelf area to allow additional reserve storage space while greatly improving the speed and ease of pick slot replenishment?

If you find that you are suffering from any of the above common causes of space shortfall, here is how to proceed to find the missing storage space.

How to devise a warehouse layout that will free up as much space as possible?

First, you will need an accurate layout of your current facility including exact column, wall, and door positions. Since a few as 1 or 2 inches can make the difference in whether an additional storage rack will fit, I suggest you verify every important dimension using a tape measure and a piece of chalk to mark exact locations on your warehouse floor.

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The only truly fast and accurate way to test a variety of potential layouts is to next create a building plan to scale, using a layout program such as Visio Professional (my personal choice for ease of learning) or AutoCAD. Both of these programs allow you to use actual dimension lines to insure the accuracy of your results.

Next, lock down your building outline (to prevent accidentally moving walls or columns while you draw!) and save a virgin copy that can be used over and over again, as you try various alternatives. Then take a copy of the virgin layout and draw in your existing racks, shelves, and floor storage locations using accurate measurements taken with your tape measure. If everything actually fits and looks correct, then your drawing is probably correct and you are ready to start designing your new layout.

What design alternatives will work in your specific situation?

At this point the real creativity begins. Using a new copy of the virgin layout for each alternative layout, try out the effects of making the changes suggested in the four points at the beginning of the article.

If you are currently using a sit-down fork truck or your aisles are greater than 8 1/2 or 9 feet, try using smaller aisles and see how well it works. If your columns fall more than a short distance into the new aisles, try variations such as a single, wider

aisle, or try using only a single row of rack, to allow you to “bury” the columns in the rack.

If your product mix allows it (many pallets of a few different items) try using three-, four-, or five-deep floor stacks to hold just these items.

If you are using floor stacking but your product can only be stacked two pallets high, consider using drive-in or push-back pallet rack to hold product three or four pallets high and three or four pallets deep.

If you have a large area of pick shelving, are you using 3-foot or narrower aisles? If not, try an alternate 3-foot layout and see how much additional shelving the area will hold. You may need to use a

narrower pick cart to allow pickers to pass in the aisles. We suggest using 48" by 14" wire wheeled shelf carts to provide four shelves for picked product with only a 14" width for easy passing.

If you only have a few aisles of pallet racking and don't ship over 20 pallets a day, you might try reducing aisles to 6 1/2 feet and using a walkie-stacker fork truck. Some will reach up to 20 feet in height if you have a high ceiling building.

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Obtaining a narrow-aisle stand-up fork truck can reduce aisles to only 8 1/2 feet wide, freeing 35 percent of the aisle space for additional storage.

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