



## ***Rack Safety & Repair***

# WHO WE ARE

REB Storage Systems International specializes in the design, engineering, and project management of storage and material handling systems for warehouses, distribution centers, manufacturing facilities, records storage environments, and other companies with storage and distribution needs. In business since 1962, REB material handling systems are renowned for innovative design, structural integrity, safety, durability, and value.

## WE'VE COMPLETED

more than **80,000** projects

in **15** countries

(including all **50** states)

for more than **15,000** customers.

# WHAT WE DO

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# WHAT OUR CUSTOMERS ARE SAYING

“

“We have been a customer for over 15 years. REB offers a good selection of products at great prices. They are an excellent source of materials along with suggestions and information on a variety of storage issues.”

-Brian Dubin, All Products Automotive, Inc.

“

I have worked with REB Storage Systems for many years. I have made multiple purchases with them at two different companies and absolutely satisfied with their quality, personal touch, and strong values in doing business together. I highly recommend them for your warehouse needs and they are my first call for additional material handling needs.”

-Eric Johnson, Unisync Group

“

“Since 1988 REB has been working with us to install the most efficient and cost effective records storage systems to suit whatever space we need. They have truly been our partner in business and assisted us in whatever needs we had, new building design and layout, used and new equipment. We always knew we were within codes and regulations, because of REB’s constant industry involvement and relationships.”

-Mike Jurczykowski, Chicago Records Storage

“

“REB proposed big shoes to fill and they came through 100% with success. This was a very difficult project to design and install and it couldn’t have gone any smoother. The REB representative gave me 2 weeks notice for when the materials would be in and when the project would begin. Overall just a breath of fresh air in an industry where many projects just don’t go as planned.”

-Scott Sears, Lieberman Management Services



# FULL PROJECT MANAGEMENT SERVICES







***Design &  
Engineering***

***Product  
Procurement***

***Subcontractor  
Sourcing &  
Management***

***Permitting  
Support***

***Installation***

PHASE 2



# RACKING SYSTEM OPTIONS







***Selective***

***Drive-In &  
Drive-Thru***

***Pallet Flow***

***Carton Flow***

***Push Back***

***Cantilever***



# Selective Rack



## HOW IT WORKS

Pallets are loaded and unloaded from the front via a lift truck.

### Single-Deep

- Designed for first-in, first-out inventory management.
- Numerous aisles required.

### Double-Deep

- Consists of two standard selective racks set up back to back.
- Designed for last-in, first-out inventory.

## KEY FEATURES

- Highly selective. However, this requires numerous aisles, which makes it a lower density option.
- Double-deep pallet racking allows for greater density than single-deep pallet racking.
- Common bay size for selective rack is 96" wide x 42" deep. However, there are many different bay configurations possible.
- Bolted cross bars are available to support pallets.
- Wire decking can be used to support pallets, totes, or boxes.

## IDEAL USES

- Continuous product circulation.
- Product with a high turnover rate.
- Reserve storage of products.







# ***Drive-In & Drive-Thru Rack***



## **HOW IT WORKS**

Pallets are stored on support rails that are attached to uprights and are accessed by a lift truck. The lift truck drives into the system with the load elevated to the height of the rail and places it in the selected location.

### **Drive-In**

- Lift truck loads and unloads by entering through the front and backing out.
- Designed for last-in, first-out inventory management.

### **Drive-Thru**

- Lift truck can enter through both ends of system for loading and unloading.
- Designed for first-in, first-out inventory management.

## **KEY FEATURES**

- Drive-in and drive-through rack systems have a number of options to aid in safe, efficient storage and distribution of products.
- Uprights located in areas of high traffic can be recessed, referred to as cant-back style, to lessen the likelihood of forklift impact.
- Floor-mounted guide rail and rack-mounted rub rail can also be included for further protection.
- Drive-in offers higher density but lower selectivity than drive-through rack.

## **IDEAL USES**

- Storage of homogeneous product.
- Product with long life spans.
- Large products that require one time moves.
- Cooler/freezer storage.
- Storage of date-sensitive product.
- Perishable items that are rotated quickly.





# Pallet Flow Rack



## HOW IT WORKS

In pallet flow rack, the rack supports inclined rollers or wheels that allow pallets to glide from the back (loading) aisle to the front (picking) aisle.

## KEY FEATURES

- Designed for first-in, first-out inventory management.
- Provides excellent volume utilization.
- Can range from 2-12+ pallets deep.
- Can be fitted with a number of accessories to aid in safe, effective distribution including:
  - Entry guides
  - Ramp stops
  - Speed controllers
- Polycarbonate wheels available.
- Split case steel rollers available.

## IDEAL USES

- Date-sensitive products.
- Cooler/freezer storage.
- High quality pallets.





## A photograph of a warehouse aisle showing multiple levels of orange metal shelving units. The shelves are filled with various items, including cardboard boxes and blue plastic bags. Labels with alphanumeric codes and barcodes are visible on the orange shelving beams. The floor is made of dark, textured material.

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- Designed for first-in, first-out inventory management.
- Provides high density.
- There are a number of carton flow accessories to help with safe, efficient distribution such as:
  - Lane guides
  - Brakes
- Tilt trays can be added to the discharge end of the system for easy access into the top of a case for piece-picking.
- Full bed polycarbonate wheels available for varying carton widths.
- Full width steel rollers and polycarbonate wheels available for consistent carton widths.

- Case-pick and piece-pick applications.
- Date-sensitive product.
- Cooler/freezer storage.

# ***Push Back Rack***



## **HOW IT WORKS**

In push back rack, the rack uses carts that move along inclined rails. Each pallet is loaded from the front of the system on to a cart. Using the next pallet, the first is slowly pushed until it is aligned with the next available cart. When the front pallet is unloaded, the next pallet glides to the front for picking.

## **KEY FEATURES**

- Designed for last-in, first-out inventory management.
- Utilizes the warehouse cube to reduce required aisle space.
- High density within each bay and in the overall warehouse.
- Ranges from 2-7 pallets deep.
- Can be as high as needed.
- Variable bay widths are available to accommodate single-wide or double-wide pallet rows.

## **IDEAL USES**

- Storage of multiple pallets of the same SKU.
- Cooler/freezer storage.
- High quality pallets.





## A large industrial warehouse interior featuring a high ceiling and a complex system of orange and teal metal shelving units. The shelving units are arranged in long rows, creating a sense of depth. The floor is polished and reflective, showing the structure of the racks. Yellow labels with numbers are visible on the lower shelves.

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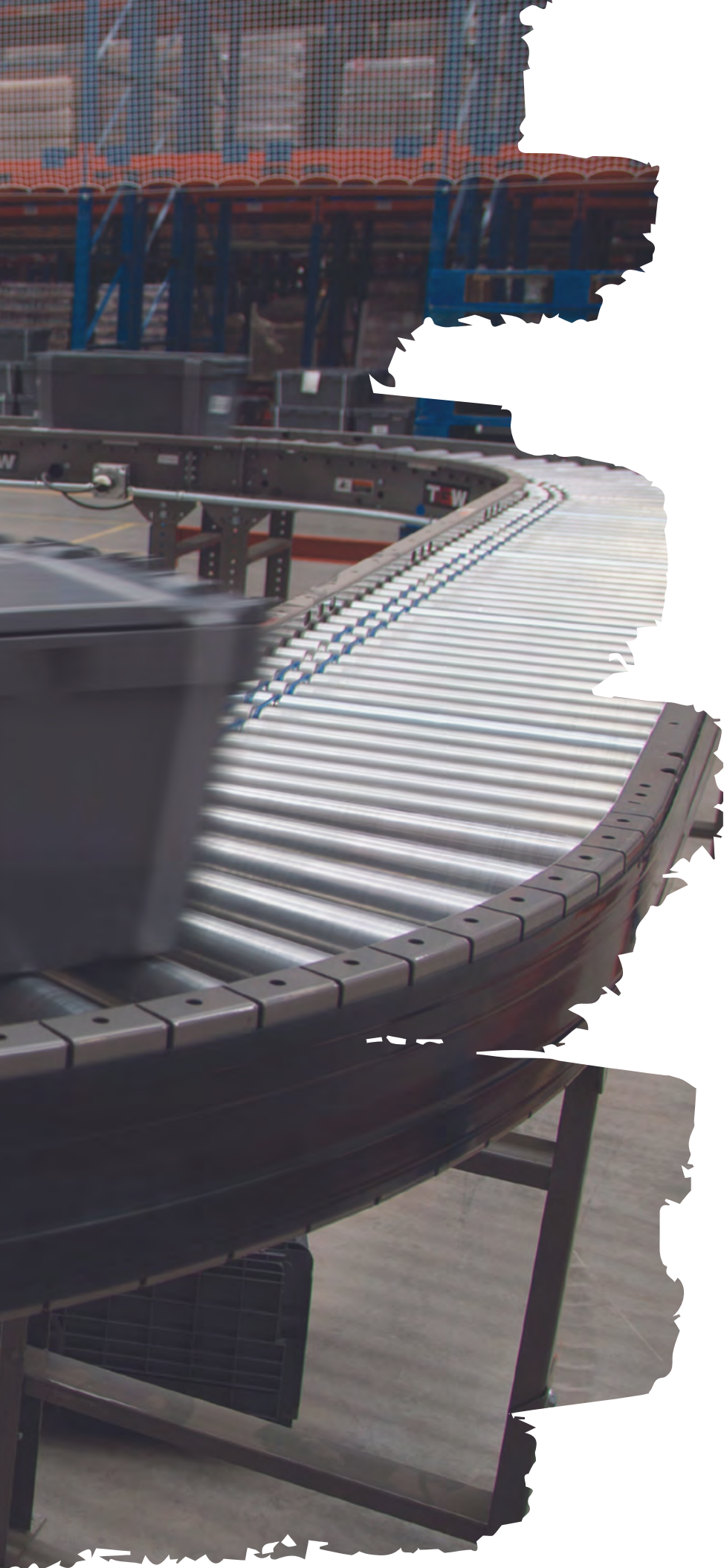
- Easy installation, deconstruction and reconfiguration as needed.
- High versatility.
- Allows rack to be adjusted to varying heights.
- Holds products with widths larger than the rack.
- Easy to adjust height of arms to meet the needs of particular product load.
- Increases employee productivity due to products being highly accessible.
- Arm accessory options available including: roof supports, deck support saddles, welded and bolted-on end lips, core/axle saddles, and removable pipe end stops.

- Products that typically cannot be stored on pallets.
- Long, bulky items such as furniture, lumber, and plumbing.



# AUTOMATION SYSTEM OPTIONS





***AS/RS***

***Pallet Runner***

***Voice Picking***

***Pick-to-Light  
& Put-to-Light***

***Vertical Lift  
Module***

***Conveyor***



# AS/RS System



## HOW IT WORKS

An AS/RS system, or automated storage and retrieval system, is an automated pallet storage solution that stores, tracks, picks and delivers pallets without human interaction other than dropping the pallet off and picking the pallet up.

AS/RS systems fall into two categories: unit load, for storage of pallets, and mini load, for storage of cases or cartons.

Unit load AS/RS systems can be crane-based or shuttle-based.

## KEY FEATURES

- Labor reduction: pickers no longer need to travel great distances.
- Increased pick accuracy: up to 99.95% accurate.
- Utilizes full building height.
- Increases storage density (shuttle-based).
- Ability to handle higher storage and throughput counts.
- Reduces damage to products and the system.

## IDEAL USES

- Low number of SKUs, high number of pallets per SKU (shuttle-based unit load).
- High number of SKUs, low number of pallets per SKU (crane-based unit load and mini load).
- Availability to store higher than 30 ft.
- Stores products that require date code management or scan verification.
- Stores heavy loads (up to 6,000 lbs.).
- Freezer storage.
- Lack of consistent warehouse labor.
- Have multiple distribution centers that could be consolidated into one. This is due to the high throughput and density capabilities.







# ***Pallet Runner System***

## **HOW IT WORKS**

Pallet runners are semi-automated deep lane storage systems that deliver pallets via a cart that runs on a track within the racking system.

In a system utilizing semi-automated pallet runners, pallets are loaded into the system by a lift truck then transported and placed on the rack by an automated cart.

The process of unloading is the same: the cart collects and transports pallets out of the system, while an operator moves between the lane and the shipping dock or other destinations.

## **KEY FEATURES**

- Each level is accessible, which reduces honeycombing.
- High density. It can go as deep as needed.
- Reduces system and product damage.
- Can be both FIFO and LIFO.
- Reduces aisle requirements, increasing overall storage density.
- Controls product flow.

## **IDEAL USES**

- High number of pallets of the same SKU.
- Low number of SKUs.
- Requires staging pallets for shipments.
- Requires specialized pallet configuration.
- Fast product throughput.
- Maintain good quality pallets.



# Voice Picking System



## HOW IT WORKS

Voice picking systems are automated picking systems that can be much more efficient than picking via paper or RF transmitters. With voice picking, the operator does not have to 'look down' to reference their next steps.

Voice picking systems utilize headsets and wireless scanners to enable a hands-free, single-touch pick and pack operation.

With voice picking, the operator is directed by the voice command via the headset for each step in the process. The voice command can be customized to each company's specific operation.

## KEY FEATURES

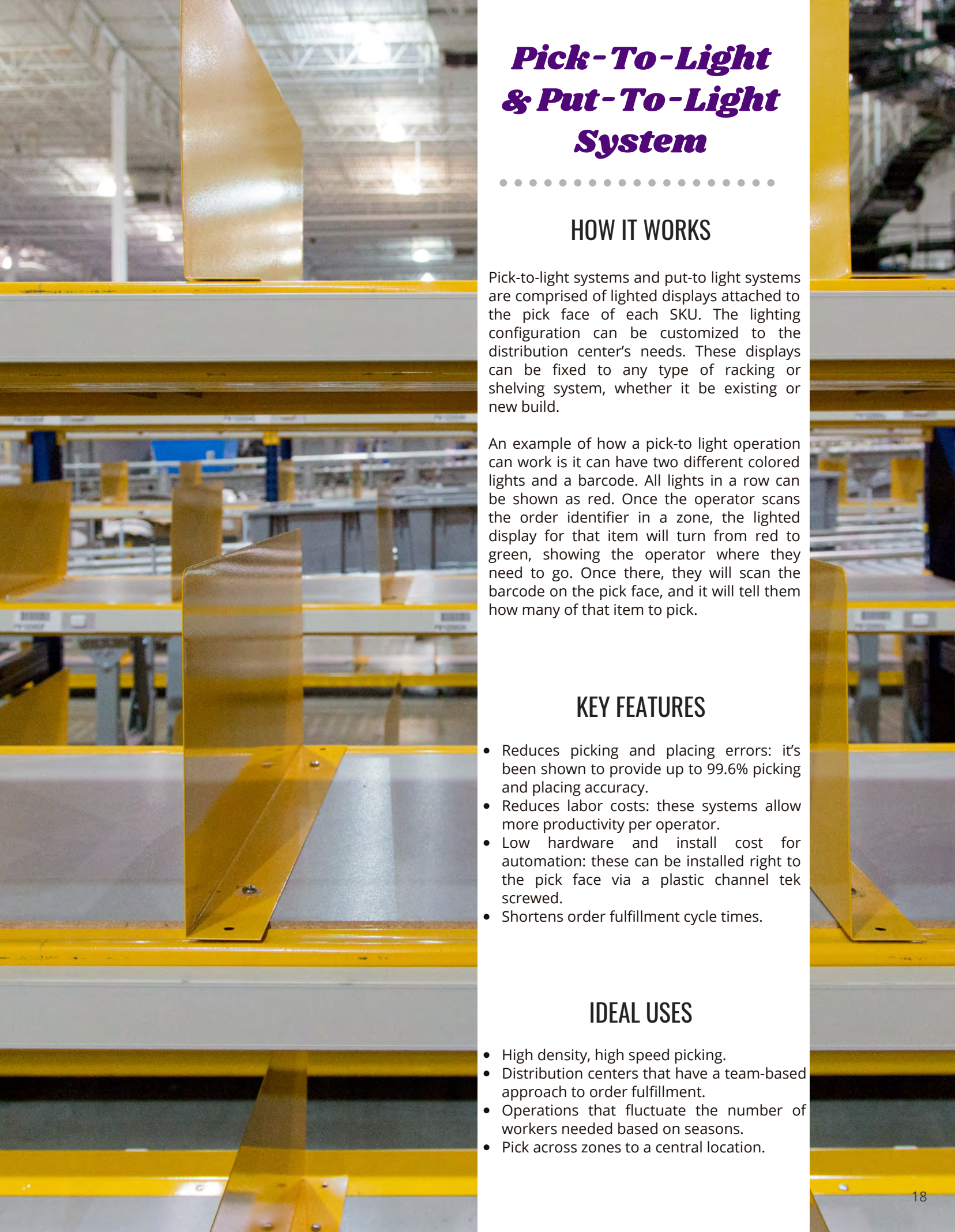
- Increases pick accuracy: up to 99.9% accurate.
- Increases pick volume per worker.
- New employee training time reduced by up to 50%.
- Shortens order fulfillment cycle times.
- Safety incidents reduced by 5% to 20%.

## IDEAL USES

- Products that require regulation and/or scan verification.
- Large distribution centers that distribute a high volume of SKUs.
- Distribution centers that fluctuate the number of workers based on seasons.
- Distribution centers that regularly reconfigure pick locations.







# ***Pick-To-Light & Put-To-Light System***

## **HOW IT WORKS**

Pick-to-light systems and put-to light systems are comprised of lighted displays attached to the pick face of each SKU. The lighting configuration can be customized to the distribution center's needs. These displays can be fixed to any type of racking or shelving system, whether it be existing or new build.

An example of how a pick-to light operation can work is it can have two different colored lights and a barcode. All lights in a row can be shown as red. Once the operator scans the order identifier in a zone, the lighted display for that item will turn from red to green, showing the operator where they need to go. Once there, they will scan the barcode on the pick face, and it will tell them how many of that item to pick.

## **KEY FEATURES**

- Reduces picking and placing errors: it's been shown to provide up to 99.6% picking and placing accuracy.
- Reduces labor costs: these systems allow more productivity per operator.
- Low hardware and install cost for automation: these can be installed right to the pick face via a plastic channel tek screwed.
- Shortens order fulfillment cycle times.

## **IDEAL USES**

- High density, high speed picking.
- Distribution centers that have a team-based approach to order fulfillment.
- Operations that fluctuate the number of workers needed based on seasons.
- Pick across zones to a central location.



# Vertical Lift Module



## HOW IT WORKS

VLMs are enclosed systems of vertically arranged trays stored in both the front and rear of the unit with an extractor device operating in the center.

The VLM automatically delivers trays with the stored items to the access window with a push of a button or scan of a barcode.

Trays are stored using the least amount of space and maximizing storage density within the VLM. The VLM scans the height of the product on each tray and places the tray in the ideal storage location slot.

## KEY FEATURES

- Reduces labor costs: by delivering items directly to the operator, travel and search time is drastically reduced.
- Increases picking speed: can increase productivity up to 800%.
- Can save up to 85% of the storage footprint.
- Eliminates shrinkage: the machine tracks everything. It knows who used it last, what they did, etc.
- Improves ergonomics: employees don't have to stoop to pick products from the bottom shelf, or reach up high to pick from upper shelves.

## IDEAL USES

- Storage of high-value items.
- Kitting.
- Small parts storage/partial case picks.
- Storing parts that need to remain clean.
- Currently using tote or bin storage.
- Batch picking.







# **Conveyor System**

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## **TRANSPORTATION CONVEYORS**

Transportation conveyors are the most basic type of conveyor. Options are available to accommodate requirements such as desired speed and product handling procedures, but for the most part, they help get products straight from point A to point B.

Types of transportation conveyors: gravity, belt, live roller.

## **ACCUMULATION CONVEYORS**

Accumulation conveyors move loads from point A to point B, allowing them to accumulate when necessary to allow time for equipment or other material handling resources to become available down the line. Once these resources become available, the system gives a signal to release the next queue of products.

Types of accumulation conveyors: zero pressure, zero contact, minimum pressure.

## **SORTATION CONVEYORS**

Sortation conveyors are used to direct products from one conveyor line to another. These conveyors integrate an induction system, system merges, and sortation diverts. These are tailored to each operation in order to properly identify, track and transport products to expedite the order fulfillment process.

Types of sortation conveyors: shoe sorter, pop-up wheel, right angle transfer, arm or pusher style, narrow belt, tilt-tray, cross-belt.



# PICK MODULES

## HOW IT WORKS

A pick module integrates a variety of material handling solutions to optimize the flow of orders. They move product efficiently through a distribution center and expedite the order fulfillment process.

Pick module layouts vary, but often contain areas to accommodate faster moving and slower moving products, and/or palletized products and piece picking.

Systems can be designed as one level, or utilize mezzanines to create a multi-level pick module. Systems can also be designed so that it's initially one level, but can be expanded vertically in the future.

## INTEGRATED SOLUTIONS

REB pick modules can include a number of elements in one design to produce the optimal layout and flow process for your operation:

- Mezzanines
- Selective rack
- Push Back rack
- Carton flow rack
- Pallet flow rack
- Shelving
- Conveyors
- Voice picking
- Pick-to-light and/or put-to-light

## BENEFITS

- Shortened order fulfillment cycle times
- Increased pick accuracy
- Increased selectivity
- Increased density
- Labor reduction







## SPEEDCELL

Maximizes DC space using high-strength columns that are suspended within an existing selective rack or wide span rack system. This allows the columns to hang and easily move from side to side for higher accessibility to rear columns.

Multiple columns can be installed in each bay to make full use of bay depth, providing higher pick facings per bay for higher storage density.



## MEZZANINES

A cost effective solution to add additional capacity to a distribution center by utilizing vertical space.

REB offers:

- Free standing mezzanines
- Rack supported mezzanines
- Shelving supported mezzanines

Component options include:

- Stairs
- Ladders
- Conveyors
- Handrails
- Gates
- Modular offices

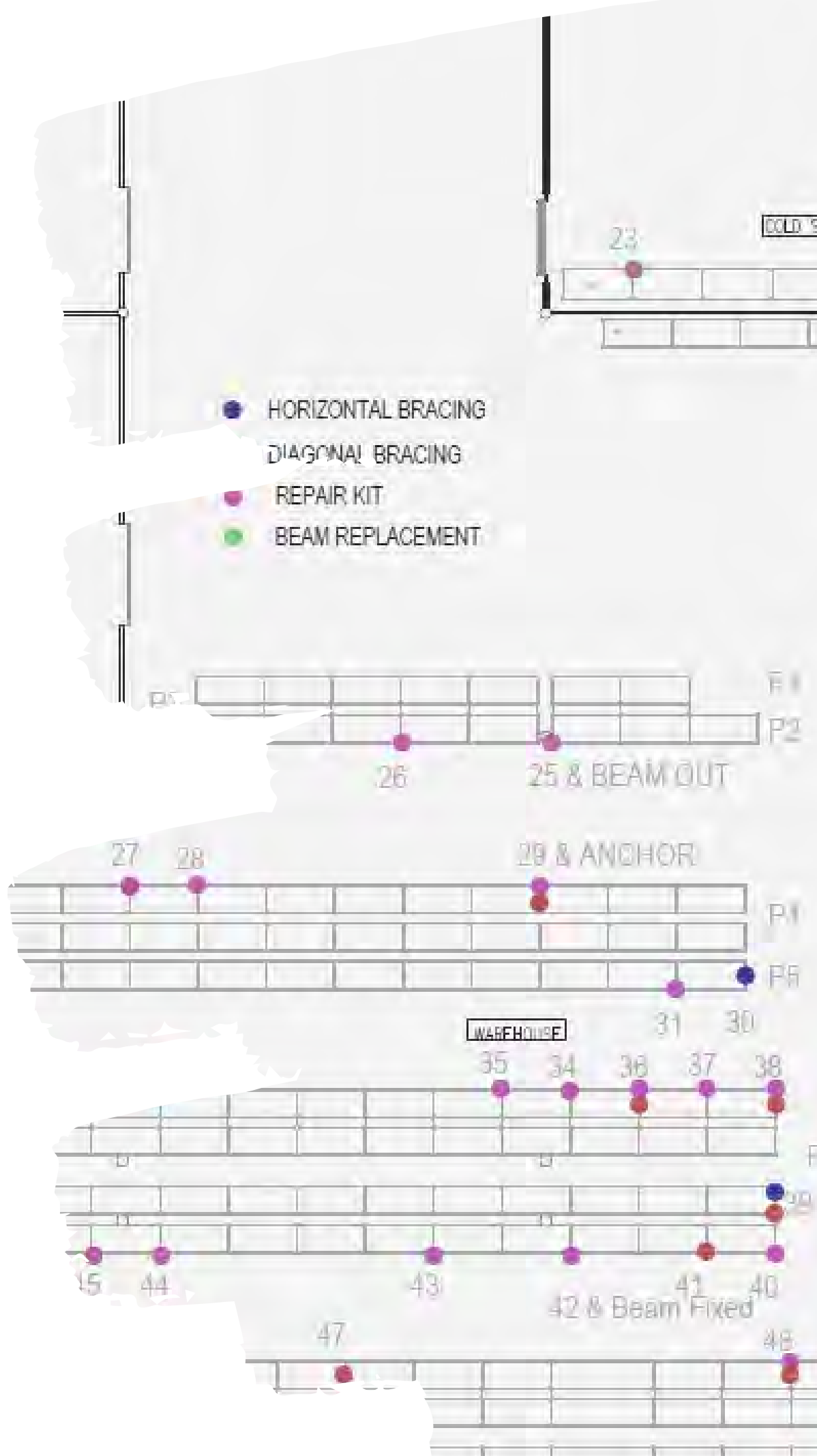


## MATERIAL HANDLING PRODUCTS

- Carts
- Ladders
- Ladder carts
- Bins, totes, crates
- Pallet jacks
- Pallet trucks
- Workbenches and workstations



# RACK REPAIR & SAFETY







***Rack Safety  
Assesements***

***Rack Repair  
Services***



# ***Rack Safety Assessments***



## **HOW IT WORKS**

First, one of our rack safety experts will conduct a full walk through of your facility. Next, you'll be provided with a scope drawing and report that identifies the location of all damage and what type of damage it is. After reviewing your damage summary, you can decide if you'd like to move forward with any or all of the repairs.

Damage concerns identified include:

- Column damage.
- Horizontal and diagonal strut damage.
- Footplate damage.
- Overloaded beams or frames.
- Anchor damage.
- Missing or damaged components (wall ties, crossbars, cross-aisle ties, pallet stops).
- Leaning frames.
- Beam damage.
- Damaged decking.

## **COMPLY WITH ANSI/RMI RACK STANDARD 16.1**

REB's safety assessments help you comply with the ANSI/RMI 16.1 rack standards. Among these include:

- Repair and Replacement of Damaged Components: these shall be replaced by qualified persons following recommended and documented procedures. Repair components must be at least as strong as undamaged components.
- Owner Maintenance: the owner shall maintain the structural integrity of the installed rack system assuring proper operational and maintenance procedures. Regularly inspect for damage and immediately unload the affected area and replace or repair the damaged column(s), beam(s), and other structural components.
- Additions, Alterations and Reconfiguration: all additions, alterations and reconfiguration should meet the same requirements as the original installation.
- Rack Damage: upon any visible damage, the pertinent portions of the rack should be unloaded immediately by the user until the damaged portion is repaired or replaced.







# ***Rack Repair Services***



## **HOW IT WORKS**

Rack repair can be a good alternative to rack replacement for damaged uprights.

In rack repair, racks are repaired in-place using a manufacturer-engineered rack lifting jack that allows for a minimal amount of unloading.

The lower damaged portion of the rack is removed. It is then replaced with a heavier, abuse-resistant upright. If you have unique repairs involving custom onsite welding or fabrication, we will plan in advance with you and schedule the best time to do those repairs.

## **KEY FEATURES**

- Made in the USA.
- Comply with the ANSI/RMI rack standards 16.1.
- Reinforced post section.
- Can be configured with most beam types.
- Extended footplate with ½" anchors for added impact and twist resistance.
- Manufactured using 50,000 PSI minimum yield high strength 12 gauge or heavier steel.
- Powder coat painted to the customer's color choice.
- Can be bolted or welded.

## **BENEFITS VS. RACK REPLACEMENT**

- Less disruption to warehouse operations.
- Less unloading.
- Faster to repair a damaged column vs. replacing frame and reconnecting beams.
- Less dismantling of accessories such as wire mesh deck, crossbars and fire baffle.
- Stronger / heavier gauge repair column installed.
- Less damaged product disposal.
- Less likely to create interference with fire protection and electrical.





# CONTACT US



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