

Engineered
**Rack Repair
& Protection**
Solutions





INTEGRATED RACK REPAIR AND PROTECTION

Mac Rak designs, engineers and manufactures all of our products in-house. Mac Rak punched post products are produced using prime 50,000 minimum yield steel. We cut, punch, form, weld, powder coat and inspect each product at our own facility. We produce over 26 column designs which allows Mac Rak to offer repairs for all types of racks on all types of rack systems. Our optional Quick Ship Program ensures that you have extremely quick access to this enormous product line.

LARGEST AMERICAN PALLET RACK REPAIR AND PROTECTION COMPANY



Typical pallet rack repair process:

- Repair process 4x faster than frame replacement
- Repair requires 75% less product movement than frame replacement
- About half the cost of frame replacement
- Less internal resources expended
- Minimal disruption to operations
- Provides superior impact resistance
- Approved industry practice

Turnkey - nationwide repair solutions for any and all types of damaged pallet rack.

Engineer supervised products and processes

Bolt-on connectors & grade 5 hardware - no hot work permit or fire watch required

Certified professional installation crews

Protects life, limb and property

All products manufactured in the U.S.A. by Mac Rak

LARGEST REPAIR AND PROTECTION PRODUCT LINE IN THE INDUSTRY INCLUDING A FULL ARRAY OF CUSTOMIZED PRODUCTS

ENGINEERED REPAIR SOLUTIONS FOR ALL TYPES

Drive-In Racks



ELITE CANTILEVER

ADVANTAGE

ELITE SLANT LEG

Pallet Flow Racks

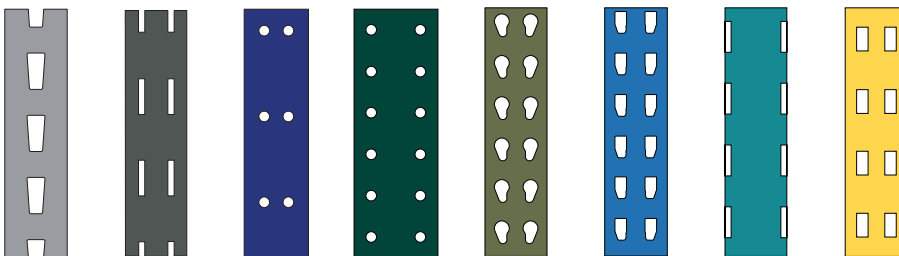


FRONTLINE

ADVANTAGE

ELITE VERTICAL

Mac Rak Manufactures Punch Styles On 3" & 4" Column Widths



Products are powder coated to customer choice of standard rack colors.

OF RACKS ON ALL TYPES OF PALLET RACK SYSTEMS

Selective Racks



BULLDOG



ELITE VERTICAL
DOUBLE LEG



ADVANTAGE

VNA Racks



FRONTLINE



ADVANTAGE NPD



ELITE VERTICAL

Push Back Racks



FRONTLINE



ADVANTAGE NPD



ELITE VERTICAL



CAUTION
FORKLIFT



Frontline Repair

Maximizes repair budget

Best for VNA and rear post applications

Additional backer for
ADDED IMPACT RESISTANCE

Allows for maximum beam adjustability

Available in all standard punch styles

Reuses undamaged factory strutting

Extended footplate with two 1/2" anchors
for added impact and twist resistance

Available in all heights



Intermediate Repair

Most economical for mid to upper frame
damage

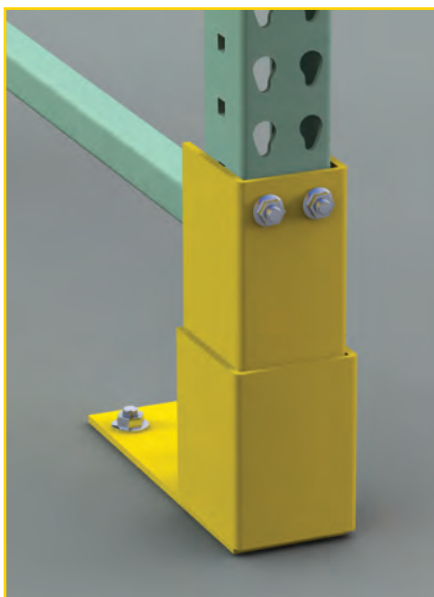
Eliminates total frame replacement

Additional backer for
ADDED IMPACT RESISTANCE

Custom lengths for all needs

Available in all standard punch styles

Available in all heights



Bulldog Repair

Dual purpose outrigger repair and protection

Ultimate impact protection for the most
vulnerable frame section

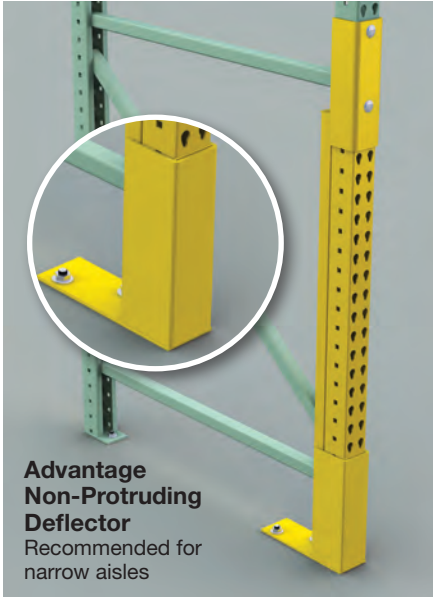
Available in custom heights

Available in non-protruding or protruding
versions

Front or side bolt connection to frame

Massive 3/8" thick oversized footplate with
two 3/4" anchors for high impact resistance and
minimal twisting





Advantage Non-Protruding Deflector
Recommended for narrow aisles

Advantage Repair Solution

Addresses damage to all areas of damaged post caused by any type of lift equipment

Repairs taller column damage and provides future impact protection from outriggers

Available with V-nose deflector, non-protruding deflector or internal reinforcement design for narrow aisle applications

Additional backer for
ADDED IMPACT RESISTANCE

12" high Front deflector is standard (custom deflector heights available)

Massive 3/8" thick oversized footplate with two 3/4" anchors for high impact resistance and minimal twisting

Reuses undamaged factory strutting

Available in all standard punch styles

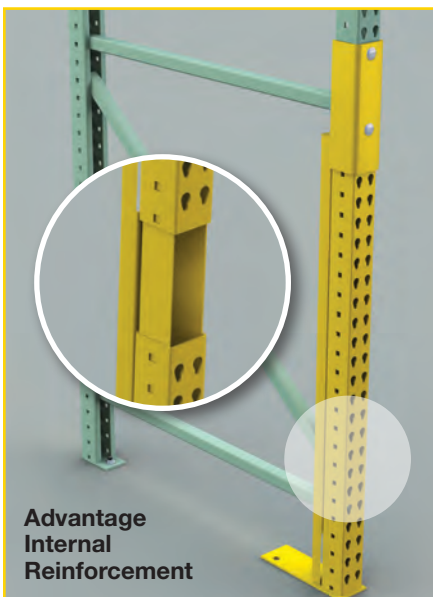


Advantage Protruding Deflector

Advantage Internal Reinforcement

Repairs damaged frame and provides high impact protection while allowing for full beam adjustability to the floor

Protector inside front column



Advantage Internal Reinforcement





Single Leg
with Patented
Intermediate Leg



Double Leg

Elite Vertical Leg

Repair kits for the most demanding and harshest environment

The Industry's highest impact resistance in a vertical leg repair kit that maintains the original rack design profile

V-nose deflector is standard
(custom deflector options available)

Beam fastening connection hardware allows for easy beam reattachment and future adjustability on roll form and structural beams using original end connectors (**cutting off beam connectors reduces beam capacity and compromises seismic structural integrity**)

Exceeds 50,000 lbs. of impact resistance up to 12" High

Standard 3/4" x 7" wedge anchors with massive 3/8" thick footplates

Easy installation due to connection design

Customer choice of FREE standard rack powder coat paint color

Complete tube construction

Available in all heights and depths



Elite Cantilever Leg

Heavy duty cantilever places the bottom front column 9" behind original location for increased outrigger and product clearance

V-nose deflector is standard.

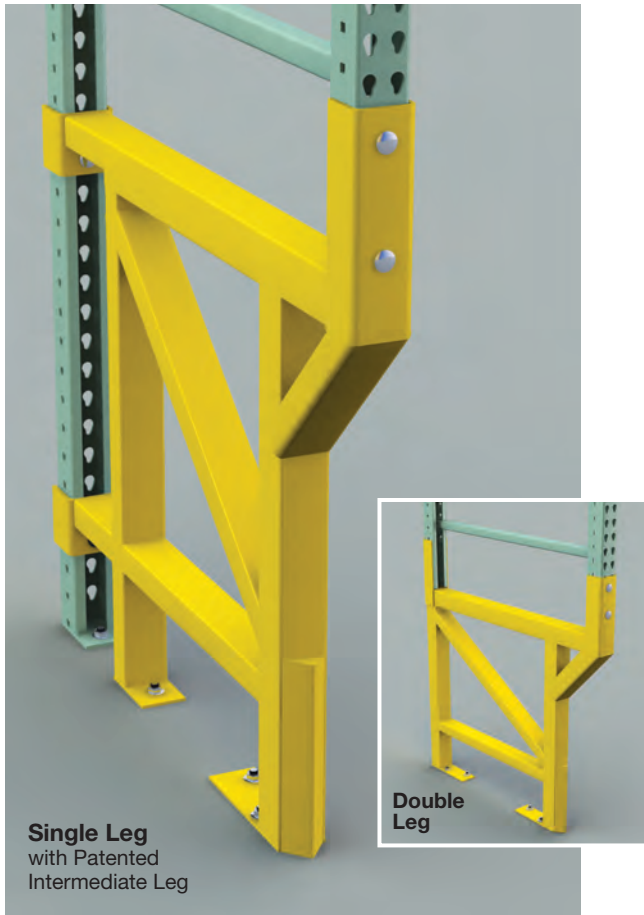
Allows repairs to match cantilever frame design

Exceeds 50,000 lbs. of impact resistance up to 12" High

Standard 3/4" x 7" wedge anchors with massive 3/8" thick footplates

Customer choice of FREE standard rack powder coat paint color

Available in all heights and depths



Elite Slant Leg

Slant leg places the bottom front column 9" behind original location for increased outrigger and product clearance

Available with or without V-nose deflector

Allows repairs to match slant leg frame design

Exceeds 50,000 lbs. of Impact Resistance up to 12" High

Standard 3/4" x 7" wedge anchors with massive 3/8" thick footplates

Customer choice of FREE standard rack powder coat paint color

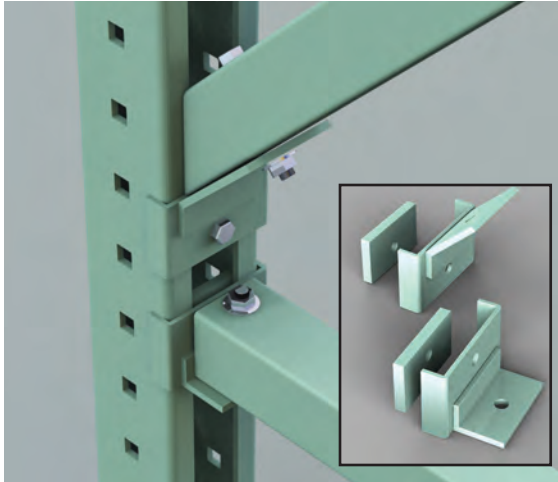
Available in all heights and depths



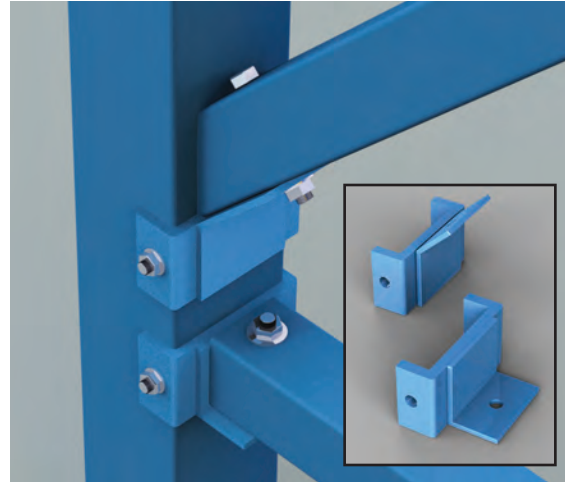
*U.S. Patent no. 6,332,549
† Due to three 3/4" anchors

STRUT & STRUT CONNECTION

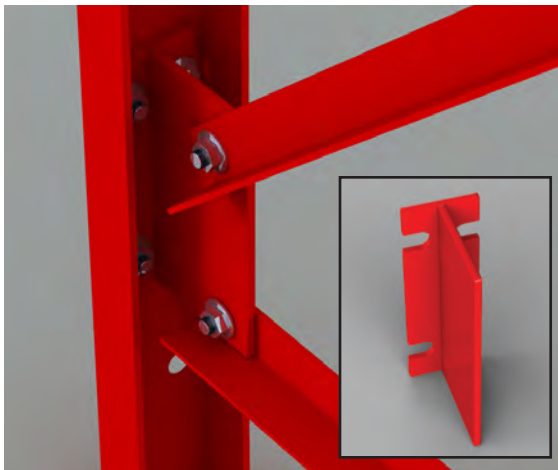
Horizontal and diagonal frame struts are integral components which must be maintained in order to ensure the structural integrity of any pallet rack. Mac Rak's product line includes replacement horizontal and diagonal struts as well as the necessary connection hardware to accommodate strut repairs on any type of pallet rack.



Roll form strut connectors for open back



Roll form strut connectors for closed back

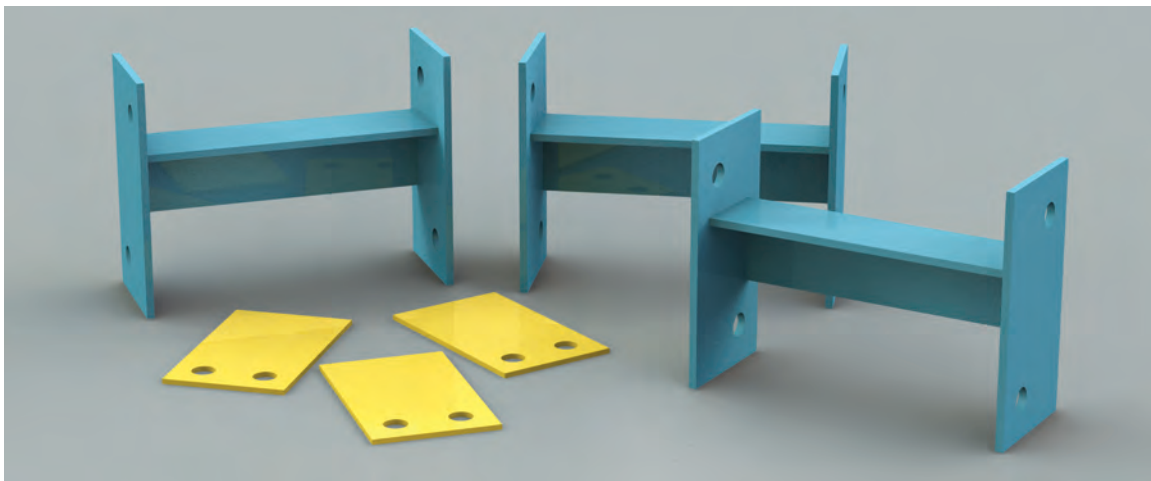


Structural strut connector for inside column

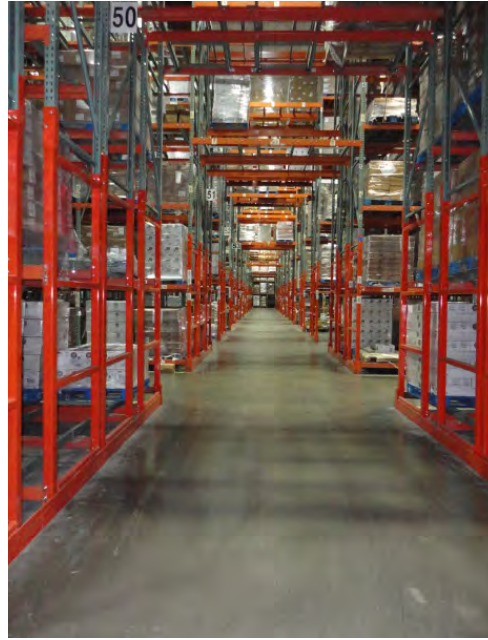


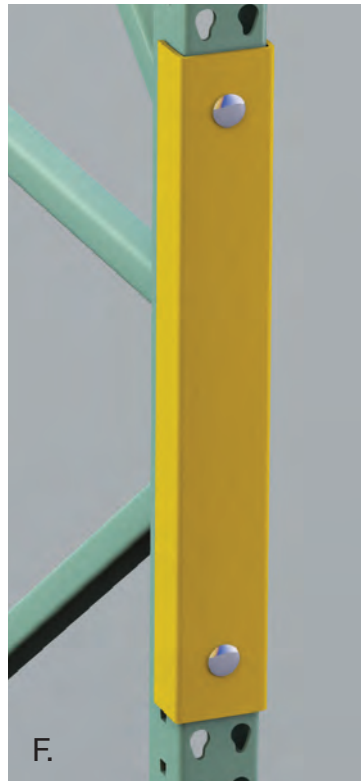
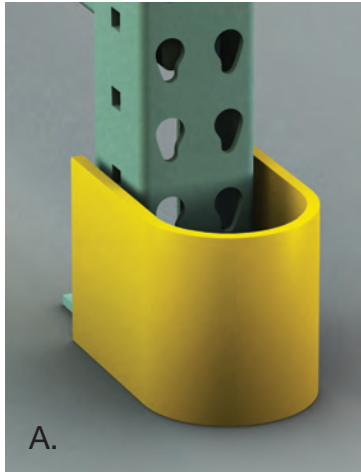
Structural strut connector for outside column

MAC RAK OFFERS A COMPLETE LINE OF PALLET RACK ACCESSORIES



EXAMPLES OF MAC RAK CUSTOM PRODUCTS





Max Guard Round

A. Standard 4" high. Custom made to accommodate all footplate sizes with one 3/4" internal anchor provided.

Max Guard V-Nose

B. Standard 4" high. Custom made to accommodate all footplate sizes with one 3/4" internal anchor provided.

Max Guard Force

C. Standard 4" high. Custom made to accommodate all footplate sizes with two 3/4" internal anchors provided. One anchor in front of the column and one anchor behind the footplate.

Max Guard Force Non-Protruding

D. Standard 4" high. Custom made to accommodate all footplate sizes with two 3/4" internal anchors provided. Anchors located behind the footplate.

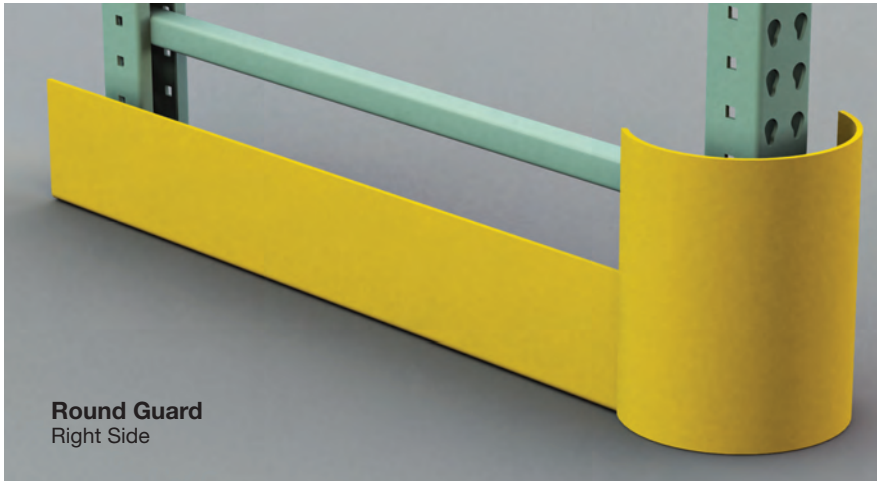
Max Guard Plus

E. Available in 12", 18", or 24" heights on column guard and choice of 4" high Round or "V" nose. Bolts to column and anchors with one 3/4" internal anchor.

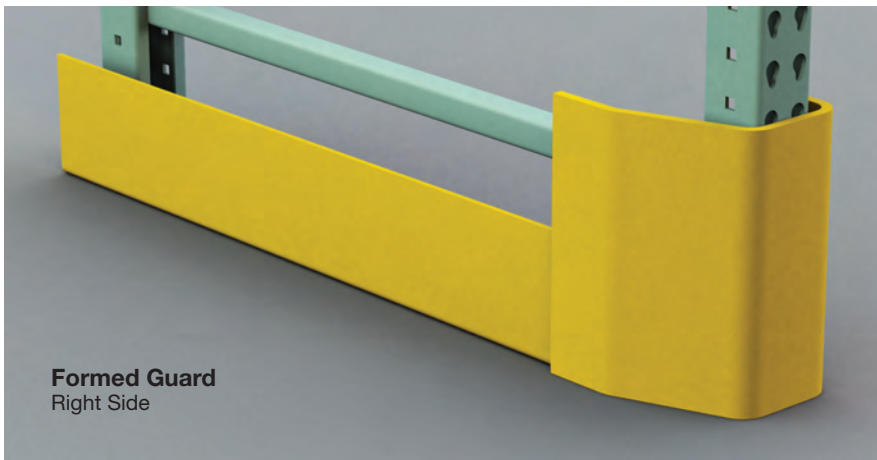
Max Guard Shield

F. Bolts to column anywhere there is repeated fork lift or product impact damage. Protects column from impact damage immediately above or below beam level. Significantly protects and reinforces lower column against "back-in" forklift damage.

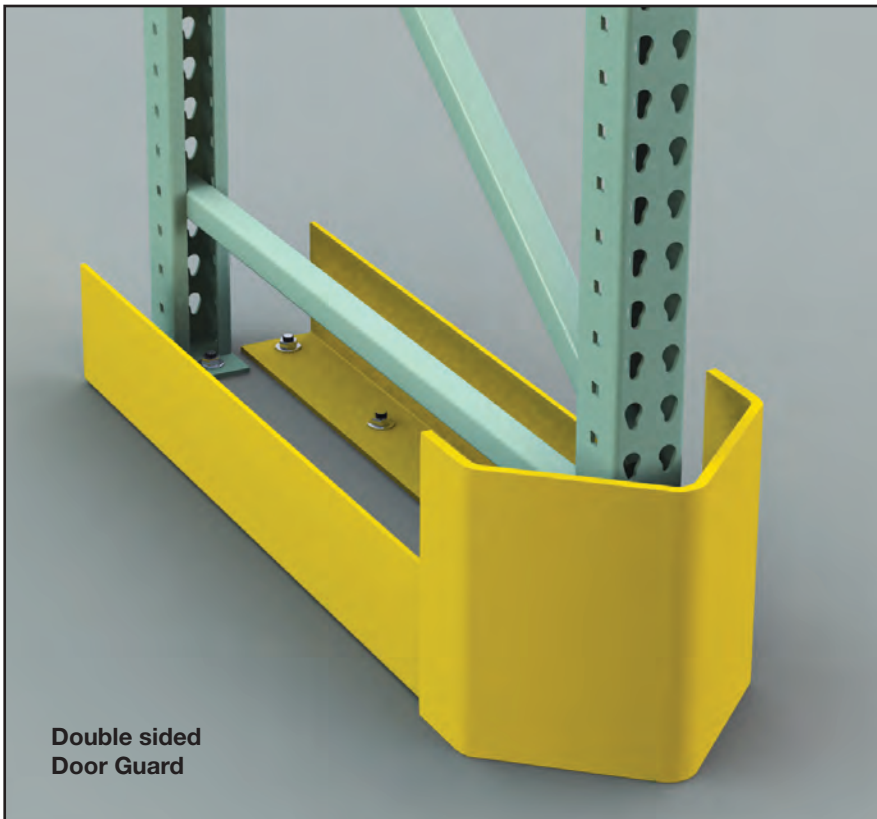
Foam plugs available for Max Guards



Round Guard
Right Side



Formed Guard
Right Side



**Double sided
Door Guard**

Ultimate Impact Resistance

Mac Rak's custom designed end of row guards are the ultimate standard for end of row and tunnel frame guarding. Constructed with $\frac{1}{2}$ " thick steel to wrap around and isolate the front frame post from impact damage. Connected to heavy 6" X 4" X $\frac{3}{8}$ " angle to protect the side and rear post, with $\frac{7}{8}$ " holes for multiple $\frac{3}{4}$ " anchors. These guards will keep your equipment away from your frames. This reduces impact damage and greatly increases facility safety.

Custom notching available to accommodate all footplate sizes. Available in left side, right side or double sided. Custom designed for your exact needs.

Round Guards

Keeps equipment more than 4" away from the front frame post. (Not recommended for VNA applications.)

Formed Guards

Designed for VNA applications only. $\frac{1}{2}$ " wrap-around plate forms tight to the front frame post, reducing aisle clearance by only $\frac{1}{2}$ " per guard. This provides maximum protection with minimal aisle clearance loss.

Dock Door Guards

The strongest protection for the busiest traffic areas to protect the most vulnerable storage rack locations in your facility. Constructed with the same materials as the heavy duty end of row guards.

FOCUS, FOCUS, FOCUS

Mac Rak's entire organization is solely dedicated to one business and one business alone, provide the industry with exceptional world class, American made, pallet rack repair and protection solutions.

STEP 1: The Audit

After selecting Mac Rak as your engineered pallet rack repair company, the single most important phase of any pallet rack repair project is unquestionably the audit. It is critical that the audit is conducted by a qualified damage rack inspector. Mac Rak provides our dealers expert audit training and the most complete "tool box" containing resources to ensure accuracy. Included among Mac Rak's personnel are some of the most highly trained, experienced, professional damaged rack assessors in the industry. They are a readily available resource to provide supplemental field support to our dealers when requested.

During all damaged pallet rack audits, the visible damage to loaded pallet rack systems (as observed from floor level) is recorded for the purpose of submitting to you a confidential pallet rack repair proposal. Specific components targeted for review include front and back columns, horizontal and diagonal struts, footplates and anchors.

Damaged pallet rack repair proposals are comprised of two documents. The first is a detailed list which will identify the location all damaged rack components by referencing their adjacent pallet slot location. The second contains an aggregate repair cost proposal (material and labor) based on a summarized bill of materials generated from your specific audit. When possible, representative pictures of the damaged rack components may be included in the audit report.

STEP 2: Our American Manufacturing Process

Mac Rak produces our entire product line in America. We own and operate our facility located in Joliet Illinois. There is no outsourcing of foreign materials which guarantees you the highest quality products. We maintain complete control over the design and manufacturing of all of our products. American sourced steel is brought in one door and the strongest, unsurpassed engineered pallet rack repair products ship out the other. All Mac Rak roll form punched post repair kits are made in house from prime 50,000 psi minimum yield steel.

STEP 3: The Installation Process

A pallet rack repair can typically be performed in 20 minutes when using Mac Rak's proprietary hydraulic lifting jack. Rack repair is a process that offers minimal off-loading and disassembly of rack components as well as minimal disruption to operations. Mac Rak's installers undergo a comprehensive training program comprised of documented operating procedures along with extensive field training. Rack repair projects may be scheduled for any shift, including weekends, and will be performed by fully insured, trained professional installers.

STEP 4: Documentation and Ongoing Audits

At the conclusion of each repair project, your Mac Rak representative continues working with you to prepare a schedule for future damaged rack inspection audits and consulting in the interim.

Q: How do I determine which rack components require repair or replacement?

A: The industry's first and best reference document to use for assessing damaged rack components is Mac Rak's very own: DAMAGED RACK INSPECTION GUIDE. (Copies available upon request or download at macrak.com) A more thorough professional review can be conducted by Mac Rak or one of our many nationwide Mac Rak dealers.

Q: Why repair instead of replace damaged rack components?

A: The vast majority of the time, pallet rack repair performed by a certified crew using a hydraulic lift jack offers a more efficient, more economical, more permanent and less disruptive solution. Rack repair provides future impact resistance. Replacement frames provide only the same degree of protection as the original frame that is now damaged.

Q: What types of rack on what types of pallet rack systems can Mac Rak repair?

A: Mac Rak produces the fullest product line of pallet rack repair and protection components for all pallet racking on any type of pallet rack system. Mac Rak also offers nationwide turnkey installation and project management service in partnership with our dealers.

Q: What is the current state of regulations regarding pallet rack repair?

A: Pallet rack repair has been, and continues to be, supported by the Rack Manufacturer's Institute as well as OSHA. Mac Rak's products and services surpass requirements specified by both governing bodies. Our offering is continually reviewed and approved by supervisory engineers. Formal Stamped Engineering approval is available on Mac Rak repair projects even in the most demanding geography.

Q: What are the qualifications of Mac Rak's rack repair installers?

A: Installers are vetted by an aggressive review and formal training process which includes documented classroom as well as on the job field training. Most of Mac Rak rack repair crews have over twenty years of experience.

Q: Do repairs come with a warranty?

A: Mac Rak has the best warranty in the industry which covers a lifetime of quality of workmanship as well as an industry leading limited lifetime impact warranty on our Elite, Advantage and Bulldog series repair kits.

Q: Why are the anchors so large and located behind the repair column on Mac Rak kits?

A: Mac Rak sells the highest impact resistance. The heavy duty anchors give us increased sheer, pullout and twist resistance capability. Anchors are protected from forklift truck tires and outriggers which cause damage to the anchors as well as the trucks.

Q: Can Mac Rak support a multi-site repair program?

A: Yes, Mac Rak has many current successful programs with companies located in multiple regions in the U.S. and Canada.

Q: How do I locate my local Mac Rak dealer?

A: Call Mac Rak at 815-723-7400 and we will direct you to the nearest dealer.

Q: What is the biggest difference from your competitors?

A: Full company dedication, experience, innovation, full product design and manufacturing.

Q: What about the fire and sparks from welding?

A: Mac Rak kits are fully bolted and provide a spark free installation. Hot work permits and fire watch are a thing of the past on all bolted installations (welded kits available upon special customer request).

Engineered

Rack Repair & Protection Solutions

Best Impact Warranty In The Industry

LIFETIME **IMPACT** WARRANTY ON OUR 3 MOST POPULAR LINES



ELITE SERIES



ADVANTAGE SERIES



BULLDOG SERIES

Mac Rak Inc. Repair Kits are engineered to the highest standards.

Mac Rak Inc. produces the highest quality, highest future impact protection products available. Mac Rak Inc. offers a Limited **Lifetime Warranty** for all our products against defects in manufacturing or material workmanship.

All repair products are powder coat painted. All necessary hardware and anchors are included. All repair products may be installed without complete unloading of the rack when a rack-lifting jack is used.



For more information contact your local dealer, or contact Mac Rak directly

Ph: 815-723-7400

info@macrak.com



macrak.com



Watch Video



MHI

THE QUALITY THAT BUILT THE QUALITY CONNECTION



MEMBER

YOUR INDUSTRY CONNECTION

MHEDA

Manufacturing & Equipment Distributors Association



Member