

Dok-Lok[®] Vehicle Restraints

A full line of protection. The original. Proven.
Always improving.



A history of looking ahead

Industry leadership earned through a history of quality, expertise and innovation.

Rite-Hite® also provides in-depth, industry specific solutions in areas such as:

- » automotive
- » beverage
- » food processing
- » grocery
- » manufacturing
- » pharmaceutical
- » pulp and paper
- » retail
- » warehousing

Industry Challenges ... Rite-Hite Solutions

1975

Trucking industry conference in Washington DC raised awareness of uncontrolled and unexpected trailer separation at the loading dock



Rite-Hite engineers surveyed upwards of 5,000 over the road trailers

1977

Key development criteria identified:

- » Determine best way to secure trailer
- » Provide communication inside & outside
- » Ensure unit is stored off ground
- » Design for automatic engagement



Landing gear collapse and trailer upending identified as trailer separation hazards

1981

OSHA recognizes vehicle restraints as alternatives to wheel chocks



1992

Air-ride suspension trailers create new trailer separation risk, called "trailer creep" or "dock walk"



Rite-Hite Engineers identified common denominator on trailers, the Interstate Commerce Commission (ICC) bar

1978

OSHA publishes 29 CFR 1910.78 requiring the use of wheel chocks to secure vehicles at the dock



1980

After many years of R&D, the rotating hook design was selected as the best solution



Twenty Fortune 500 companies placed orders prior to the formal launch of Dok-Lok® on April 22, 1980



Rite-Hite launches total dock safety approach



Dok-Lok nose extension is incorporated to capture lower ICC bars



Air-ride trailers become more prevalent

— Rite-Hite Solutions
— Industry Challenges

Rite-Hite® created the vehicle restraint industry by introducing the Dok-Lok® in 1980.

We built it and we evolved it, expanding on a proven solution by developing technologies to meet the changes and challenges of the industry – from trailer and dock design to regulatory compliance.



1998

NHTSA adopts new Rear Impact Guard (RIG) standards for wider and lower bumpers



Global Wheel-Lok™ is launched in response to lift-gate trailer trend

2005

Air-ride trailers make up 60% of all trailers on the road leading to an increase in dock worker injuries



2009

Rite-Hite introduces enhanced visual communication with Rite-Vu™ light communication system



2012

An increase in global logistics leads to rise in intermodal container chassis traffic



2015



Rite-Hite introduces an upgraded Dok-Commander®, designed to perform under the harshest conditions. Flexible circuitry allows you to easily update components or add features in the field.

The Shadow Hook Restraint Series and Stabilizing Trailer Restraint with anti-rotation technology are introduced to better address all types of trailer separation.



"Fishhook" design introduced to best capture NHTSA conforming RIG's
9" low profile housing introduced to serve low RIG's

2001

Rite-Hite expands restraint line by launching the first in a line of new vertical barrier restraints



Rite-Hite introduces Stabilizing Trailer Restraint (STR), a new category of vehicle restraints that stabilizes vertical trailer movement

2011

All Rite-Hite Dok-Lok vehicle restraints are ANSI MH30.3 tested and certified



Rite-Hite launches rotating hook restraint with additional layer of safety to address intermodal chassis and standard over the road trailers

THE LOSSES REALLY ADD UP MATERIALS PRODUCTIVITY LOST PRODUCTION INJURIES DAMAGED EQUIPMENT ABSENTEEISM REDUCED MORALE LOST TIME WORKERS COMPENSATION CLAIMS DEATH PRODUCT WASTE

The loading dock, an accident waiting to happen.



Early departure trailer separation accident

Compliance with the OSHA wheel chock standard can create a false sense of security for truck drivers and dock attendants because wheel chocks are not designed to prevent trailer separation accidents at the loading dock.

Trailer separation accidents are prevalent due to a lack of communication between truck driver and loading dock personnel. In addition, air-ride suspension trailers create extreme vertical and horizontal movement during the loading and unloading process.



Wheel chock crushed by a truck at the loading dock

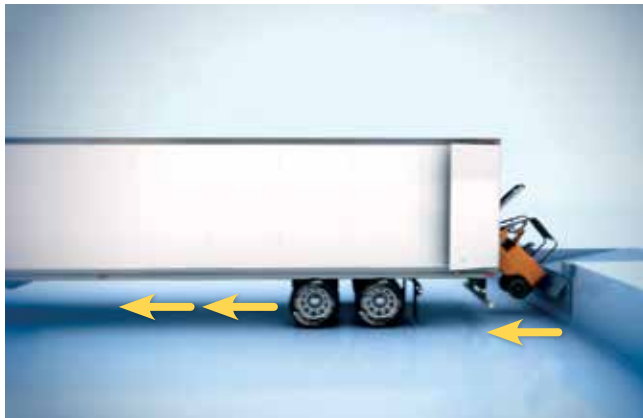
The truth behind the chock

- » They provide no communication between the truck and forklift driver
- » They cannot protect against horizontal trailer creep resulting when the trailer shifts vertically and horizontally under the weight of a moving forklift
- » Their effectiveness is hindered by weather conditions

Common indirect costs

- » Accident investigation time
- » Lost productivity and profits
- » Damaged product and equipment
- » Shipping delays

Know your risks



► Early departure

A truck driver mistakenly drives away while a forklift is entering, leaving, or inside the trailer.



► Trailer creep

A trailer can move substantially under the weight of a forklift entering and exiting, which sends the rear of the trailer forward and down, and may cause landing gear to collapse.



► Landing gear collapse

Weak or damaged landing gear gives way and the trailer pitches forward or falls to the side.



► Trailer pop-up

The weight of a forklift sends the rear of the trailer forward and down, causing the nose to rise, to trailer creep.



► Trailer upending

The weight of a forklift sends the trailer's nose down, causing the rear end to move up and away from the building.

Industry challenges, proven solutions



Intermodal container chassis

Rise in global logistics. Arm your loading docks with a safety system that allows you to adapt on demand.

Intermodal shipping is growing faster than any other mode of transportation. It combines the best abilities of different transportation modes including: rail, ship, and truck – to deliver service, savings, and solutions.¹ This reduces cargo handling, improves security, cuts damages and losses, and expedites the transportation of goods.

- » Intermodal shipments are projected to increase at twice the rate of truck movements over the next decade.
- » In 2013, TEU¹ imports in the U.S. reached 18 million units, up 3.1% from 2012. These TEU imports accounted for 58.6% of the total annual U.S. trade.²
- » In 2013, TEU exports from the U.S. reached 12.8 million units, up 2.4% year-over-year.²
- » U.S. exports reached \$2.3 trillion in 2013, up nearly \$700 billion since 2009.³
- » In 2013 U.S. goods export sectors reached all-time highs, including key industries such as automotive, industrial supplies and consumer & capital goods.³



Over the road trailer



Lift gate trailer

¹ Intermodal.org, "Intermodal fact sheet" 2014

² JOC.com: "Top 40 container Carriers" 2014

³ Commerce.gov: "American Businesses Drive Record Exports to 63 Countries" 2014

⁴ A TEU is equivalent to a standard 20' shipping container

Defend and secure your supply chain.

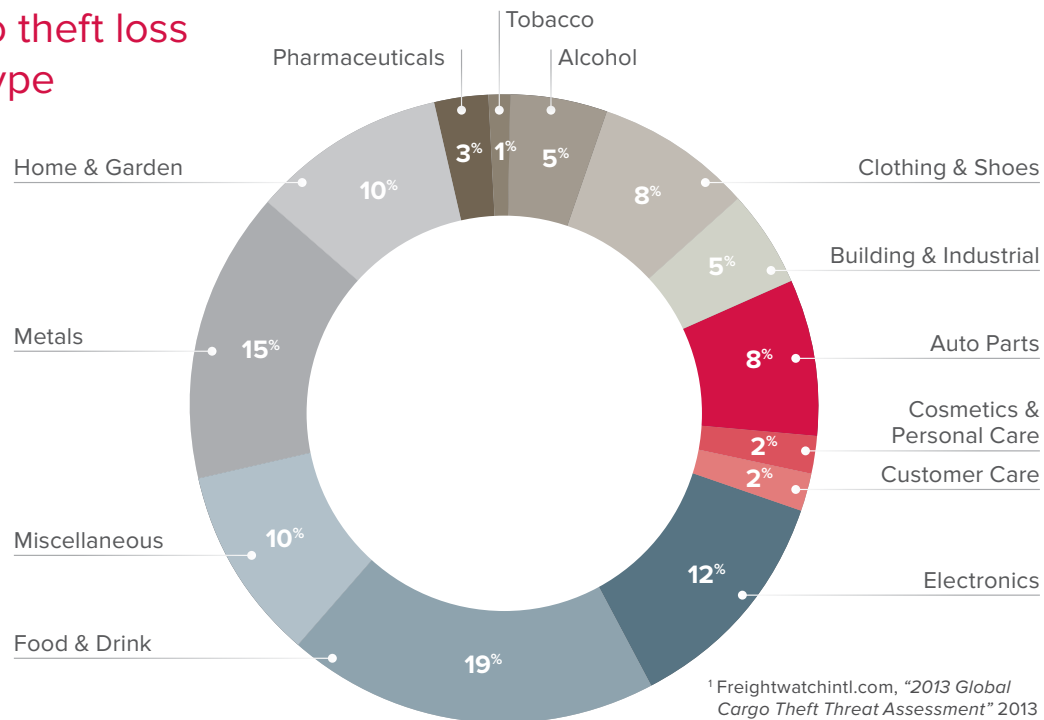
Unsecured and unattended trailers are a prime target for cargo thieves. An estimated \$35 billion in cargo is stolen from the U.S. every year.¹

Address the physical safety of your employees as well as the security of your supply chain with a multi-layered approach that includes the proper vehicle restraint.



Unattended trailers at the loading dock

Annual cargo theft loss by product type



Cargo theft



Rite-Hite® controls integrate with your building security system



Dok-Lok® trailer security

Visual communication, the first step to safety

Rite-Vu™ Visual Communication System provides full-time visual communication at your dock. Keeping personnel safe and increases productivity.



Corner-Vu
confirms Dok-Lok®
engagement status to forklift
drivers at the trailer approach.



Leveler-Vu
confirms Dok-Lok®
engagement status to forklift
drivers as they exit the trailer.

A smooth transition

Stabilizing trailer restraint, part of the Smooth Transition Dok System.®

1 Exclusive hook design

- » Greatest reach creating a two-point entrapment on RIG
- » Anti-rotation design adds an additional layer of safety by securing intermodal containers or trailers with rear impact guard obstructions
- » Automatic re-fire if hook is not properly engaged

2 Trailer Stabilization

- » Hydraulic cylinders stabilize air-ride suspension trailers to help address horizontal and vertical movement during loading/unloading
- » Smooth Transition design minimizes jolts to forklift operators reducing the occurrence of back related injuries
- » Minimizes product damage and wear and tear on other dock equipment components

3 Withstands the elements

- Corrosion resistant finish. Mounted above ground away from dirt, debris, snow, ice, and standing water

4 Designed for impact

- Automatically positioned by the trailer

5 Full-time communication

- » Comes standard with Corner-Vu and Leveler-Vu
- » Interior and exterior LED lights are standard

6 Warranty

- Five-year parts labor warranty

7 Security system interface

- Dok-Lok® vehicle restraints can physically enhance security at a facility when linked with an active building security system. If an engaged restraint is tampered with, the building security system is notified and facility protocol is followed.



Paper roll - heavy load



The impact of Whole Body Vibration



Stabilizing Trailer Restraint with cover plate obstruction

Global logistics, proven solutions

Dok-Lok® shadow hook restraints offer the highest level of safety and security at the loading dock.

1 Shadow hook

Adds an additional layer of safety by securing intermodal containers or trailers with rear impact guard obstructions

2 Exclusive hook design

- » Greatest reach creating a two-point entrapment on RIG
- » Automatic re-fire if the hook is not properly engaged

3 Widest working range

Consistent contact, securing RIG or ICC bar

4 Withstands the elements

- » Corrosion resistant finish
- » Mounted above ground away from dirt, debris, snow, ice, and standing water

5 Designed for impact

Automatically positioned by the trailer

6 Full-time communication

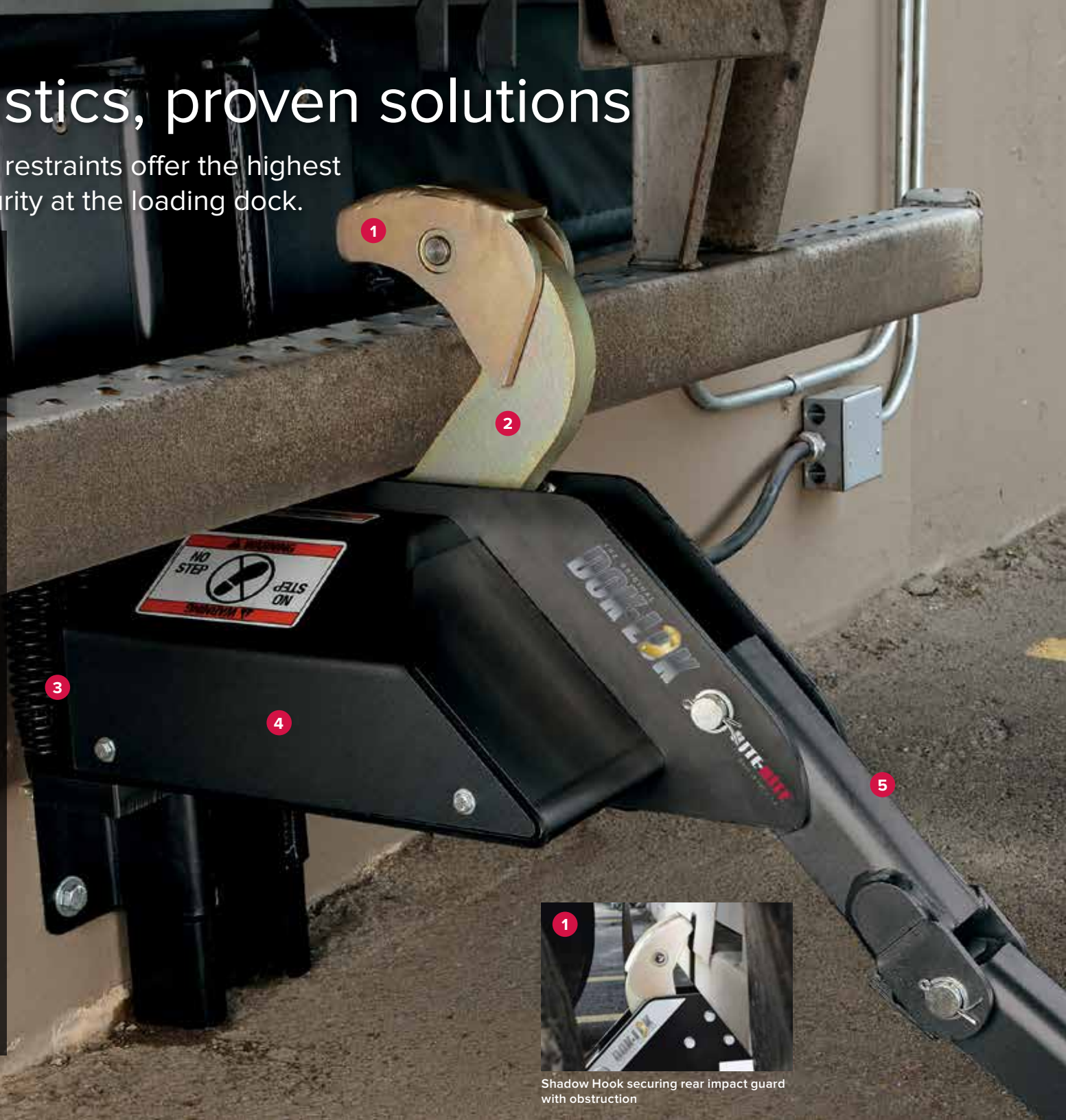
- » Comes standard with Corner-Vu and Leveler-Vu
- » Interior and exterior LED lights are standard

7 Warranty

Up to 5 year warranty

8 Security system interface

Dok-Lok vehicle restraints can physically enhance security at a facility when linked with an active building security system. If an engaged restraint is tampered with, the building security system is notified and facility protocol is followed.

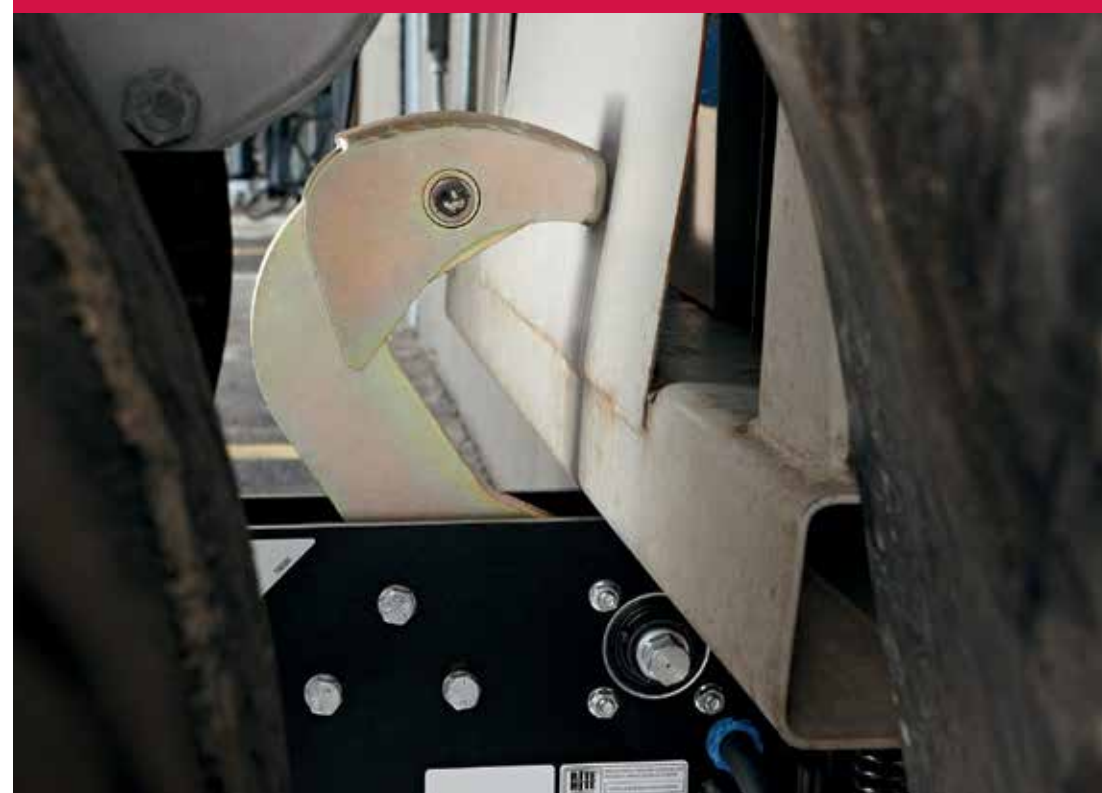


Shadow Hook securing rear impact guard with obstruction

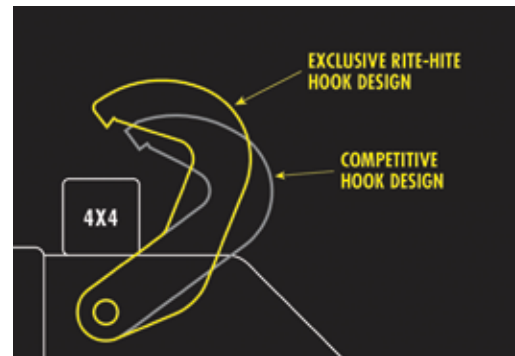
The Dok-Lok® shadow hook restraint series succeeds where others fail.

Exclusive Rite-Hite® Advantages

- » Rite-Hite created the vehicle restraint industry providing more than 30 years of restraint experience
- » Full-time communication with Rite-Vu® Communication System
- » Shadow hook adds an additional layer of safety by securing intermodal containers or trailers with rear impact guard obstructions
- » Full-time safety with exclusive hook design that provides the deepest wrap versus ineffective straight shank hook design utilized on competitive units
- » Auto re-fire, anti-theft technology
- » Designed for impact and made to withstand the harsh loading dock environment
- » 9" to 30" engagement range
- » Nema 4X, interlock capable control box
- » Security System Interface feature to address cargo theft
- » Self-diagnostic trouble-shooting
- » Coded override if fault condition occurs versus keyed override
- » Outside light monitor communicates the condition of the outside lights
- » All vehicle restraint applications are reviewed by Rite-Hite engineers to ensure proper installation requirements
- » ANSI MH30.3 tested and certified
- » Highly-trained Rite-Hite Global Distribution Network works together to serve customers around the world
- » Strongest warranty in the industry
- » Minimal maintenance by design
- » Hundreds of thousands of units sold



Shadow Hook Restraint with cover plate obstruction



Competitive rotating hook design provides ineffective wrap on RIG versus two-point entrapment created by the exclusive Rite-Hite hook.



Two-point entrapment

Ground stored vertical barrier restraint

Provides solid, dependable upward pressure to rear impact guards and sustained grip to air-ride units.

- 1 Exclusive Barrier Design**
4.25" high barrier with reverse taper design provides the highest and widest coverage on RIG's
- 2 Positive Engagement Notification**
 - » Truck presence bar is depressed upon positive engagement with RIG signaling safe engagement
 - » Exclusive mag res switch design will not come out of adjustment insuring proper communication when engaged or disengaged
 - » Automatic re-fire if barrier loses contact with RIG
- 3 Safe, constant contact against RIG**
 - » Hydraulic cylinder powers the restraint into position
 - » Mechanical springs provide constant contact and float with RIG while loading/unloading
 - » Automatic re-fire if barrier loses contact with RIG
- 4 All-weather durability**
Zinc-plated for all-weather durability
**A manual, off-the-ground unit is available*
- 5 Full-time communication**
See page 8 for more information
- 6 Warranty**
1-year parts and labor warranty.
- 7 Anti-Theft Security**
If the barrier is pushed down, as a result of tampering, auto-refire technology restores engagement to keep product loads safe and secure.



VBR truck presence bar



Live loading

Under Leveler vertical barrier restraint

Provides solid, dependable upward pressure to rear impact guards and sustained grip to air-ride units.



Clean dock face



VBR truck presence bar

- 1 Exclusive Barrier Design**
4.25" high barrier with reverse taper design provides the highest and widest coverage on RIG's
- 2 Signaling positive engagement**
 - » Truck presence bar is depressed upon positive engagement with RIG signaling safe engagement
 - » Exclusive mag res switch design will not come out of adjustment insuring proper communication when engaged or disengaged
 - » Automatic re-fire if barrier loses contact with RIG
- 3 Safe, constant contact against RIG**
 - » Hydraulic cylinder powers the restraint into position
 - » Mechanical springs provide constant contact and float with RIG while loading/unloading
 - » Mechanical stop insures barrier is locked on RIG eliminating the need for hydraulic pressure to create "snugging" effect
 - » Automatic re-fire if barrier loses contact with RIG
- 4 Recessed design**
Provides a clean dock face when in the stored position
- 5 Full-time communication**
See page 8 for more information
- 6 Warranty**
1-year parts and labor warranty.
- 7 Security system interface**
Dok-Lok® vehicle restraints can physically enhance security at a facility when linked with an active building security system. If an engaged restraint is tampered with, the building security system is notified and facility protocol is followed.

Global Wheel-Lok™

Global Wheel-Lok positions automatically and works with virtually any trailer.

- 1 Positioned automatically**
Trailer contacts trigger device and energy of the trailer pivots the barrier locking arm into position
- 2 Versatile design**
 - » 20" high locking arm secures virtually any trailer with a 30-44" tire diameter
 - » Services the widest variety of trailers including lift-gates, standard over the road with or without RIG's, and intermodal container chassis
 - » 43" to 158" engagement range
- 3 Enhances seal effectiveness**
Two wheel guides ensure on-center trailer positioning to protect building wall and enhance dock seal or shelter effectiveness
- 4 Reliable, low maintenance**
 - » Simple, reliable electro-mechanical design with minimal maintenance
 - » Surface mounted for easy installation and maintenance
 - » Performs in all weather conditions

- 7 Full-time communication**
 - » Comes standard with Corner-Vu and Leveler-Vu
 - » Interior and exterior LED lights are standard
- 8 Warranty**
1-year parts and labor warranty
- 9 Security system interface**
Dok-Lok® vehicle restraints can physically enhance security at a facility when linked with an active building security system. If an engaged restraint is tampered with, the building security system is notified and facility protocol is followed.



GWL wheel guides



GWL trigger device

Manual Wheel-Lok™

Manual Wheel-Lok features a tough, rugged design – made to service a wide variety of trailers.

1 Versatile design

- » 19" high barrier secures virtually any trailer with a 30-44" tire diameter
- » Services the widest variety of trailers including lift-gates, standard over the road with or without RIG's, and intermodal container chassis
- » 43" to 145" engagement range

2 Easily positioned

- » Ergonomic design is easily positioned with minimal force in front of the trailer's rearmost or front tire

3 Safety and security in your personnel's hands

- » When barrier is properly secured on trailer tire the security latch is engaged insuring that barrier cannot be removed
- » Security latch serves as a cargo theft deterrent
- » Forklift driver must depress "loading complete" button on inside control box to retract security latch

4 Reliable, low maintenance

- » Simple, reliable design that requires yearly maintenance
- » Surface mounted for easy installation and maintenance
- » Performs in all weather conditions

5 Full-time communication

- » Comes standard with Corner-Vu and Leveler-Vu
- » Interior and exterior LED lights are standard

6 Warranty

- » 1-year parts and labor warranty.

7 Security system interface

- » Dok-Lok® vehicle restraints can physically enhance security at a facility when linked with an active building security system. If an engaged restraint is tampered with, the building security system is notified and facility protocol is followed.



MWL positioning

MWL wheel guides

MWL security latch

Maximize safety

Dok-Commander™ control system

Maximize safety and effectiveness by interlocking multiple pieces of dock equipment to attain a customized sequence of operations.



Rite-Hite Dok-Commander offers simple access to controls for each dock component.

Designed and tested to deliver reliable performance under the harshest conditions: electrical noise, electrical and environmental requirements, and chemicals. The flexible circuitry meets your changing needs: easily update components or add features with ease in the field.

The Rite-Hite® advantage for all controls

- » Modern user interface with updated membrane switch buttons
- » Interlock capable for a complete dock safety system
- » Security System Interface with anti-theft technology
- » NEMA 4X rated – an added level of protection for personnel and equipment. Protect the components that help protect your people in the harsh loading dock environment.

Integrated controls

Integrate the controls at your loading dock. This minimizes electrical installation costs and reduces the wall space required by multiple control boxes.



Multiple controls at each dock position can be complicated and potentially dangerous.

Rite-Hite Dok-Commander

Total communication package

The industry's most reliable and effective communication systems created with dock personnel and truck drivers in mind.

Interlock the sequence of operations to optimize dock safety and productivity

- » **Supply Chain Integrity Sequence** – allows controls to interface, keeping the supply chain safe.
- » **Best Practice Sequence** – secures trailers and protects employees.
- » **Door Protection Sequence** – protects overhead doors and employees.

Security system interface

Dok-Lok® vehicle restraints can physically enhance security at a facility when linked with an active building security system. If an engaged restraint is tampered with, the building security system is notified and facility protocol is followed.

Universal restraint controller

Providing the ultimate in safety and performance.

Rite-Hite® Dok-Lok® Vehicle Restraint Capabilities

Rite-Hite representatives will work with you to meet all of your application needs.

	STABILIZATION	TRAILER SEPARATION ACCIDENTS					MAJOR TRAILER TYPES		
	Trailer Stabilization	Early Departure	Trailer Creep	Landing Gear Collapse	Trailer Pop-up	Trailer Upending	Intermodal Chassis	Standard Over the Road Trailers	Lift Gate Trailers
STR-4200	×	×	×	×	×	×	×	×	N/A
SHR-5000	N/A	×	×	×	×	×	×	×	N/A
VBR	N/A	×	×	TRAILER STAND	N/A	TRAILER STAND	×	×	N/A
MWL	N/A	×	×	TRAILER STAND	N/A	TRAILER STAND	×	×	×
GWL	N/A	×	×	TRAILER STAND	N/A	TRAILER STAND	×	×	×

Trailer Stabilization



Trailer Separation Accidents



Major Trailer types



Rite-Hite® covers all of your potential needs

Protecting your employees is an important job.

Only Rite-Hite provides complete protection by offering an innovative and adaptable selection of restraint and communication systems.

Flexible Solutions

Versatile package options help to secure all trailers and address loading dock separation accidents.

Full-Time Communication

A simple LED system paired with an audible horn - in case of emergencies, signals the restraint status to forklift and truck drivers, as well as other dock employees.

Durable Design

Product engineering protects against backing trailers and other environmental factors.

Widest Working Range

Reliably secures trailers with varying RIG size, shape, height, and position.

Constant RIG Contact

Restraint remains engaged as trailer height varies while allowing for vertical and horizontal “float” – essential for air-ride trailers.

Designed to Win

Exceeds ANSI Standards, per ANSI MH.30.3. Resists trailer movement and early departure with 32,000lbs of force.

Lowest Cost of Ownership

Optimal performance with minimal maintenance.

Industry Leader

With a long history of delivering quality, expertise, and innovation at the loading dock.



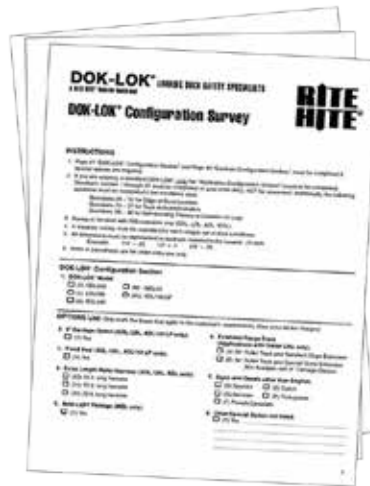
Comprehensive Application Process

The better your restraints fit your specific application, the better they will protect your people.

Only Rite-Hite® performs a thorough, expert survey of your dock before installing your restraints. The survey examines:

- » Slope of dock approach
- » Building structure
- » Trailers serviced
- » Height and slope of the trailer RIGs, dock positions and more

Rite-Hite application engineers then calculate installation specifications to ensure maximum restraint effectiveness – an extra measure of confidence you only get from Rite-Hite.



Dok-Lok® configuration survey

Representative support



Choosing a restraint is a long-term investment

You're not just choosing an important product – you're also choosing a company. Make sure you select a manufacturer and local dealer who stand behind the equipment and provide complete service and support.

Consult with your Rite-Hite Representative to evaluate your current vehicle restraints and determine how Dok-Lok vehicle restraints could be a benefit to your facility.



Improving industrial **safety**,
security, and **productivity**
worldwide through quality
and innovation.

- ▶ VEHICLE RESTRAINTS
- ▶ LOADING DOCK LEVELERS
- ▶ DOCK SEALS AND SHELTERS
- ▶ INDUSTRIAL DOORS
- ▶ HVLS FANS
- ▶ BARRIER SAFETY SYSTEMS
- ▶ MACHINE GUARDING SYSTEMS
- ▶ INDUSTRIAL CURTAIN WALLS



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