LOADING DOCK SAFETY:
REDUCE ACCIDENTS,
INCREASE PRODUCTIVITY

Who is Rite-Hite?

- Milwaukee, WI Based Manufacture of Loading Dock and Industrial Door Safety Systems
- Sell Through a Network of Distributors Who Represent Us on an Exclusive Basis in Defined Geographic Territories
- Customers: End Users, Contractors, 3 PLS, Anyone that loads and / or unloads trucks and trailers
- Markets: Worldwide
- Mission Statement: Improve Safety, Security and Productivity Through Quality and Innovation

Safety in the BIG PICTURE
Defining the Material Transfer Zone

Risk Recognition within the M.T.Z.
- Trailer Hazards: Identifying damage during inspections
  - Problem: Catastrophic trailer separation accidents
  - Problem: Trailer drop
  - Problem: Landing gears fail
  - Problem: Falls from dock platforms and vacant loading docks
  - Problem: "Dock Shock"
  - "Best Practices" for dock leveler maintenance
  - Problem: Hot trailer marker lights can cause fires
  - Problem: Is water creating a safety concern at your loading dock
  - Problem: Area protection and pedestrian safety

High % of accidents take place at the Material Transfer Zone
- Truck driver killed after loading rig
- Forklift accident kills Grand Prairie man
- Man killed in forklift accident
- Forklift accident kills 40-year-old man
- Man killed in forklift accident
Identify Damage During Inspections

Follow Guidelines for Both Exterior and Interior Inspections of Trailer Body!

Roof Structure

Top & Bottom Rail Fasteners

Floor Boards & Cross Members

TRAILER HAZARD:

• Rear impact guards
• Securing the trailer

Inspect when using vehicle restraint devices to secure the trailer to the dock!

Visually inspect structural integrity

TRAILER HAZARD:

Watch out for faulty landing gear

“Live Loading” (tractor attached) vs. Dropped Trailers (tractor detached)

Ref. Page 64 if A.I.A.G. M-6

Landing gear integrity

TRAILER HAZARD:

Identify Damage During Inspections

TRAILER HAZARD:

Identify Damage During Inspections
• Which is considered a “Best Practice” when loading & unloading?
• Know your trailer design
  
  **Tandem Wheels Forward**
  VS.
  
  **Tandem Wheels Back**

  Preferred location of Tandem Wheels

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**TRAILER HAZARD:**

Identify Damage During Inspections

- Air-ride suspensions can lead to vertical and horizontal trailer movement as the forklift enters and exits the trailer.
- Vertical trailer movement can cause uneven transition.
- Horizontal trailer movement can lead to trailer separation from the dock.

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**SECTION REVIEW**

“Prevention of Catastrophic Failures”

Establish checklist and train employees for Exterior/Interior Inspections

Perform Inspection of cross members, roof structures, floor boards & top/bottom rails

Don’t “ASSUME” someone else has inspected your trailer!
#1. Premature Departure

Clip taken from Rite Hite’s Dangers on the Dock website.
Visit: [http://www.ritehite.com](http://www.ritehite.com)

RH_EarlyDepartureAccident.mpg

Catastrophic Trailer Separation Accidents

PROBLEM:

#2. Trailer Creep

Remember:
- Safe
- Smooth
- Deliberate
- Driving Techniques

Fast driving & air-ride suspensions are common causes

Catastrophic Trailer Separation Accidents

PROBLEM:

#3. Landing Gear Collapse

Trailer Tip-over
PROBLEM: Catastrophic Trailer Separation Accidents

#4. Trailer Pop-Up
Remember: Positioning of the rear tandems is important

PROBLEM: Catastrophic Trailer Separation Accidents

1910.178 OSHA guide
(7) Brakes shall be set and wheel blocks shall be in place to prevent movement of trucks, trailers, or railroad cars while loading or unloading.

PROBLEM: Wheel Chocks May Not Prevent Trailer Separation

- False sense of security
- Driver can easily pull over chocks
- Even less effective on snow, ice and wet pavements
- Time consuming
- Often misplaced, lost or stolen
SOLUTION: Automatic Vehicle Restraints

Vehicle Restraints help prevent all types of trailer separation

Typical RIG bar
Low-profile RIG bar

PROBLEM: Some Trailers Don’t Have ICC Bars or RIGs

SOLUTION: Automatic Vehicle Restraints

Choosing the Right Vehicle Restraint is Critical
•  Part-Time Safety:
  •  Vertical barrier vehicle restraints & dropped trailers with RIG bumpers
•  All Manufacturers’ Vertical Barrier Vehicle Restraints:
  •  Won’t secure rear of trailer during landing gear collapse or trailer tip over!
  •  Vertical Barrier Vehicle Restraints Only Address 2 of the 4 Types of Accidents!
UNSTABILIZED TRAILERS CAN MOVE IN THE VERTICAL DIRECTION OR "DROP" UP TO 8" WITH THE WEIGHT OF A FORKLIFT

**Trailer drop problems:**
- Back and neck injuries
- Product and equipment damage
- Trailer separation accidents

**SOLUTION:**
Wheel Based Vehicle Restraints

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**PROBLEM:**
Trailer Drop

Unstabilized trailers can move in the vertical direction or "drop" up to 8" with the weight of a forklift

**Trailer drop problems:**
- Back and neck injuries
- Product and equipment damage
- Trailer separation accidents

**SOLUTION:**
Stabilizing Vehicle Restraint

HORIZONTAL & VERTICAL STABILIZATION
A. Purpose. This instruction allows the use of a mechanical means which secures trucks or trailers to a loading dock in situations in which they provide the equivalent protection of wheel chocks.

1. A positive mechanical means to secure trucks or trailers to a loading dock is allowed provided the system is installed and used in a manner that effectively prevents movement of trucks and trailers during loading, unloading and boarding by handtrucks and powered industrial trucks.

2. All of the mechanical equipment shall be installed, maintained and used as recommended by the manufacturer.

3. Any damaged mechanical equipment will be removed from service immediately.

**SOLUTION:**

Automatic Vehicle Restraints

Subject: 29 CFR 1910.178(k)(1) and (m)(7) Mechanical Means to Secure Trucks or Trailers to a Loading Dock

OSHA Instruction STD 1-11.7 August 5, 1981

PROBLEM: Landing Gears Fail

Landing gear collapse

Some lighter duty trailer stand units may require two per trailer for greater stability

PROBLEM: Landing Gears Fail

OSHA guide 1910.178 (k)(3)

- Fixed jacks may be necessary to support a semi-trailer and prevent upending during the loading or unloading when the trailer is not coupled to a tractor
SOLUTION: Trailer Stands for Added Measure of Safety

Look for:
- ERGONOMIC HANDLES
- 16" Solid Rubber Tires
- 30" X 16" Top Plate
- 16" X 30" Base Plate
- 100,000 lb. Static Load Capacity

PROBLEM: Falls From Dock Platforms & Vacant Loading Docks

OSHA guide 1910.23 Guarding floor and wall openings and holes
- (a) Protection for floor openings. (1) Every stairway floor opening shall be guarded by a standard railing...
- (10)(b) Protection for wall openings and holes. (1) Every wall opening from which there is a drop of more than 4’ shall be guarded by one of the following
  - (i) Rail, roller, picket fence, half door, or equivalent barrier...

PROBLEM: Falls From Dock Platforms & Vacant Loading Docks

How do we address the challenge of the open dock door?
PROBLEM: **DOCK SHOCK!**

Transition points on traditional levelers:
- Rear hinge design creates bumps and gaps that:
  - Cause jolts to forklift operators

Jostle product:
- Damage loading dock equipment

SOLUTION: **Safe-T-Lip Levelers**
- Automatic roll off protection at the edge of the dock
- Look for: Unobstructed “end loading” capability!

SOLUTION: **Safe-T-Gate Barrier Protection**
- Rear hinge design creates bumps and gaps that:
  - Cause jolts to forklift operators
- Damage loading dock equipment
PROBLEM:

Front Hinge Creates Bumps That:
• Cause Jolts to Forklift Operators
• Jostle Products
• Damage Loading Dock Equipment

SOLUTION:

Smooth Transition Dock Levelers
• New front and rear hinge design provides smoothest transition from the warehouse floor to the trailer bed
• Reduces Whole-Body Vibration up to 76% percent

BEST PRACTICES:

Dock Leveler Maintenance

Make certain dock leveling equipment is braced & secured
• Does your company have a written Lock Out Procedure for dock equipment?
• Ensure your personnel's safety with the Safe-T-Strut!
• Helps comply with OSHA 1910.147
PROBLEM: Hot Trailer Marker Lights Can Cause Fires

"It took three fire extinguishers to put it out! We're lucky the whole building didn't catch fire."
- Shipping Manager, CWC Textron

1999 NHTSA ENFORCEMENT OF TRAILER MARKER LIGHTS REQUIREMENT

COMPRESSED INTO FOAM SEAL, LIGHTS CAN REACH 900 DEGREES F IN AS LITTLE AS 20–30 MINUTES.

SOLUTION: FireFighter Technology

- Available on Rite-Hite Head Pads, Head Curtains and Side Pads
- Multi-layer foil, heat dissipation system
- Can prevent burning from trailer marker lights

PROBLEM: Is Water Creating a Safety Concerns at Your Loading Dock?

- Water damage to products
- Wet, slippery, icy dock levelers
- Even with a good dock seal, water can infiltrate dock from top of trailer
**SOLUTION:** RainGuard Header Seal

- Auto-Positioning
- Tight seal across top of trailer

**PROBLEM:** Area Protection and Pedestrian Safety

**SOLUTION:** Barrier Systems Protective Railing

- Separates & Defines
  - Interior loading docks
  - Long walkways
  - Large areas
SOLUTION: Barrier Systems Protective Railing

Modular Design
- Rails can be removable
- Easy to measure, layout and install

We Can Help Make Your Dock Safe

- Loading Dock Safety Assessments
- Loading Dock Safety Presentations
- On-Site Training and Support
- Fly-In Program

THANKS TO...

Supporting materials for this seminar were provided by the following groups:
- Pulp & Paper Safety Association
- Automotive Industry Action Group (refer to M-6)
Contact Us

27 years of Material Handling Industry experience. Available to speak to Plants, Distribution Centers, Trade Associations or Conventions on any of the topics listed above.

Experience working as a liaison between Rite-Hite, our representative enterprise and World Wide customer base of Fortune 1000 Companies.

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