

# Manual Safety-Chock



 **SERCO**<sup>®</sup>

For trucks with lift gates, damaged Rear Impact Guards, or different axle configurations, loading docks need a rugged yet versatile restraint to maintain safe operation. The Serco Manual Safety-Chock provides a cost-effective and ergonomic solution for restraining unconventional vehicles.

## IT'S ALL ABOUT SAFETY.

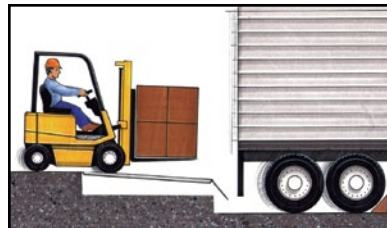
Investing in trailer restraints is critical to the safety of your dock workers. Traditional vehicle restraints address common accidents at loading docks, including Premature Departure, Trailer Creep, Trailer Walk and Landing Gear Collapse:



▲ **Premature Departure:** Truck drivers think loading is complete, or simply connect the wrong trailer and pull away while the dock attendant is still loading or unloading.



▲ **Trailer Creep:** The constant impact of a fully-loaded, moving forklift can cause the trailer to creep forward inch by inch, beyond the reach of the leveler lip, causing the leveler to slip off the back of the trailer and drop suddenly.



▲ **Trailer Walk:** During loading or unloading, the displacement of weight by the forklift can cause air-ride suspension trailers to move in an elliptical fashion, causing it to “walk” away from the dock in a more prominent motion.

► **Landing Gear Collapse:** With some older trailers, pressure exerted by a fully-loaded, moving forklift can cause the trailer’s landing gear to shift or rock, and ultimately collapse, sending the front of the trailer to the ground and the back of the trailer up in the air.

### HOWEVER, MANY CONVENTIONAL VEHICLE RESTRAINTS

may not engage the wide range of trailer styles or configurations that appear at your loading docks, such as:

**Lift Gate Trailers:** Many trailers equipped with lift gates impede a vehicle restraint, either by blocking access to the Rear Impact Guard, or having a lift gate system that does not include a Rear Impact Guard.



**Damaged Rear Impact Guards:** Some Rear Impact Guards have been bent or damaged over the years, rendering them impossible to restrain with a traditional vehicle restraint.

**Unconventional Trailer Configurations:** Some trailers have configurations that can affect the ability to engage a traditional vehicle restraint. From multiple axle configurations to obstructing trailer parts near the Rear Impact Guard, traditional vehicle restraints are not equipped to effectively handle all types of trailer situations.



## SERCO MANUAL SAFETY-CHOCK

**SIMPLE, SAFE & EFFECTIVE.** Serco's Manual Safety-Chock provides loading docks with a cost-effective, versatile wheel restraint solution, capable of engaging and restraining the wide range of trailers that come to the dock. Easy installation, simple operation and minimal maintenance provide a lower lifetime cost of ownership than other wheel restraint systems, and its ergonomic design enables easy maneuvering for accurate and reliably safe operation.

### SERCO ADVANTAGE

#### Trailer Compatibility

#### Restraining Force

#### Rugged Construction

#### Positive Communication

#### Ease of Operation

#### Integrated Technology

#### Designed for Extreme Weather

### DESIGN HIGHLIGHTS

- Restraint secures the trailer's wheels instead of the Rear Impact Guard (RIG).
- Standard 10' (3 m) long guide rail with 6' (1.8 m) engagement range can restrain trailers with lift gates, damaged RIGs, multiple axles and/or wheel covers and mud flaps.
- Restraining arm engages wheel near the axle height, ensuring superior capture.
- Provides 32,000 lbs. (142 kN) of restraining force confirmed using ANSYS analysis and live-load testing.
- Heavy-duty, hot dip galvanized steel components ensure long structural life.
- Guide rail and end cap deflector designed to withstand the weight of off-center trailers.
- LED interior/exterior lights are standard, and provide superior performance versus incandescent bulbs.
- Carriage and trailer presence sensors provide effective communication of restraining arm position.
- 106-decibel exterior audible alarm alerts personnel if restraint is prematurely disengaged.
- Inside release button allows dock attendant to signal when loading/unloading is complete.
- User-friendly, 2-step engagement/disengagement only requires 35 lbs. (156 N) of operating force.
- Ergonomic design of activation handle is 44 ½" (1,131 mm) long with safety-yellow grip.
- No bending or lifting required to engage/disengage restraining arm.
- Restraint controls can be interlocked and sequenced with dock leveler, overhead door or other equipment.
- Restraint controls easily integrated with 4SIGHT dock/yard management system.
- Galvanized finish and 10-degree angle of guide rail enable restraint to withstand snow, ice and debris.
- Optional 17' (5.2 m), 120-volt heat tracer cable helps clear snow and ice.
- Trailer presence sensor is IP67 rated and proximity switch is sealed and waterproof.





- ① **Impact-resistant End Cap:** Rugged construction is able to withstand trailer weight, and acts as a guide for backing trailers.
- ② **Guide Rail:** Hot dip galvanized  $\frac{3}{4}$ " (19 mm) rail is easily installed with  $\frac{3}{4}$ " (19 mm) concrete wedge anchors. Standard guide rail 10' (3 m). Optional 13' (4 m) and 16' (5 m) lengths.
- ③ **Restraining Arm:** 15" (381 mm) long, 4" (102 mm) high and  $\frac{1}{2}$ " (13 mm) thick steel arm enables full contact with at least one wheel, even if trailer is not flush with restraint. Design avoids potential of "chock pinch."
- ④ **Activation Handle:** Ergonomic handle positioned at 44  $\frac{1}{2}$ " (1,131 mm) above ground level. No bending or lifting required. Handle includes safety-yellow grip for visibility and comfort.
- ⑤ **Foot Pedal:** Easily identifiable zinc-plated foot pedal allows for quick chock release.
- ⑥ **Electric Coil Cord:** Allows electrical feed and sensor connection throughout entire working range. Coil is fed along aircraft-quality steel rope.

## USER-FRIENDLY OPERATION



The operator slides the restraint carriage on the guide rail, positions it in front of the wheel, and pivots the restraining arm to lock it in place and secure the wheel.



Once loading/unloading is complete, dock worker presses release button inside, alerting outside operator that it is safe to disengage wheel restraint. A simple press of the foot pedal disengages the restraining arm, rotating it back and away from the wheel.



**Control Panel & LED Lights/Audible Alarm:** UL listed interlock-capable control panel. Standard LED interior & exterior lights for communication. Audible alarm signals restraint operator in the event of a premature disengagement attempt.



**Trailer Sensor:** IP67-rated photo cell sensor confirms presence of wheel in safe engagement range, and alerts both dock worker and restraint operator of premature disengagement.



# COMPLETE LOADING DOCK SOLUTIONS

**INTEGRATE YOUR LOADING DOCK.** In addition to the Manual Safety-Chock, Serco offers a comprehensive catalog of loading dock equipment, providing you with a complete loading dock solution.



- **Dock Levelers:** Mechanical, air-powered, hydraulic and vertical levelers suitable for any dock environment.
- **Vehicle Restraints:** Powered and mechanical vehicle restraints safely secure trailers during loading and unloading.
- **Seals and Shelters:** Dock seals and shelters ensure an energy-efficient and secure operation.
- **Dock Doors:** TKO® impactable dock doors prevent door inefficiency due to panel or track damage, and provide a lower lifetime cost of ownership than conventional doors.
- **Dock Lifts:** Dock lifts make loading docks 100% accessible, enabling product movement in various dock applications.
- **HVLS Fans:** High Volume Low Speed Fans provide comfortable and energy-efficient dock environments.
- **Accessories:** APS Resource® offers a variety of aftermarket dock accessories and conversion kits to suit a variety of application needs.



## EXPERIENCE OUR ENGINEERED SOLUTIONS FOR YOURSELF

For over 50 years, 4Front has been designing, manufacturing and integrating loading dock equipment. We invite you to view our full line of loading dock and warehouse products at our modern showroom in Dallas, Texas. Our Visit-in-Person (VIP) program offers a unique opportunity to gain hands-on experience with our products and interact with engineering and manufacturing personnel in a comfortable environment.

**Can't make the trip to Dallas?** Let our Mobile Showroom come to you. Our 53' completely enclosed and temperature-controlled trailer features over 18 full-sized, fully-functional dock equipment demo units. Call 1-877-778-DOCK (3625) to schedule an appointment and we'll drive our loading dock solutions straight to your door.



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A continuing research program is in effect at Serco. We reserve the right to incorporate product improvement at any time without prior notice.