

**Derails are emergency stopping devices for railcars and locomotives.**  
OSHA, FRA, and DOT regulations require derail protection for all active rail sidings.



## How Derails Work

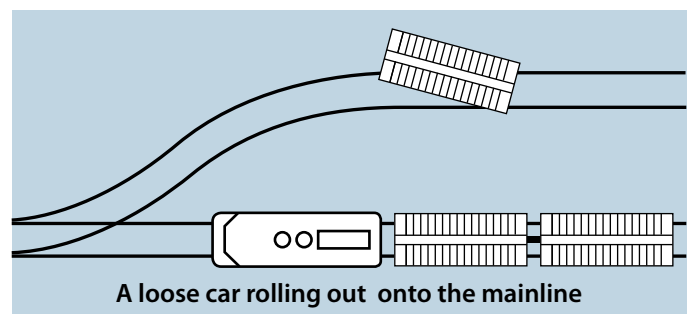
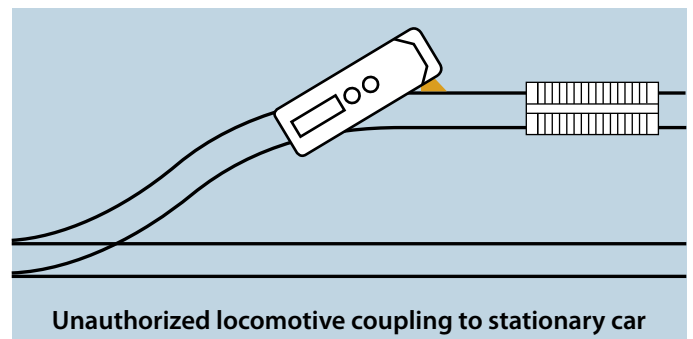
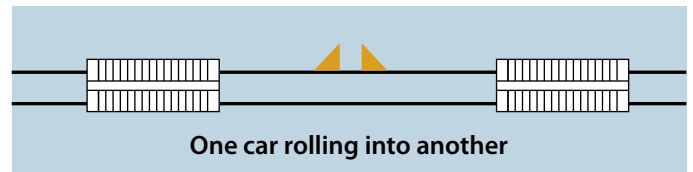
The derail lifts the flange of the wheel and drops it clear of the rail. At the same time the wheel on the other rail falls down between the rails. The derailed wheels bite into the soft surface of ties and ballast and slide to a stop. Depending on speed and consist, a derailed car or locomotive will travel some distance before stopping.

### Effective derailing depends on

- Derail properly sized, installed, and maintained.
- Cars and locomotives moving at slow switching speeds. See individual derail model for speed restrictions.
- Track open to the ties and ballast.
- In curved track, derail installed on outer rail, not inner rail.
- Ample open space along track for derailed car or locomotive to come to a stop.



## Derails Help Prevent:



## Derails Control Movement



**Hinged Derails**

Spiked to two ties. Derails can be flipped on or off rail by hand or by using lifting lever. For rails 90-142 lbs.



**Retractable Hinged Derails**

Derails slide on and off rail with 29 lb. handle pull. for rails 90-142 lbs.



**SaberTooth® Portable Derails**

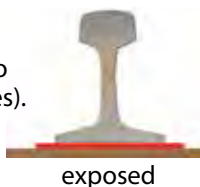
Tool-free installation. Tie-biting anchor hook. 1-way: rails 90-142 lbs. 2-way: rails 100-142 lbs.

## Important Derail Information

### Type of Rail?

All three types of derails are designed to be used on exposed rail (open to the ties).

**DO NOT USE DERAILS on Flush Rail** (rail that is encased in pavement).



### Type of Ties - Wood or Steel?

- Hinged – wood or steel
- Portable – wood or concrete
- Retractable – wood

Do not install hinged derails on concrete or resin ties.

### One-Way or Two-Way Derail?

Consider the type of rail movement you have on your spur tracks.

### One-Way Derails

Can be used with 4-axle locomotives, 6-axle locomotives and all freight cars.

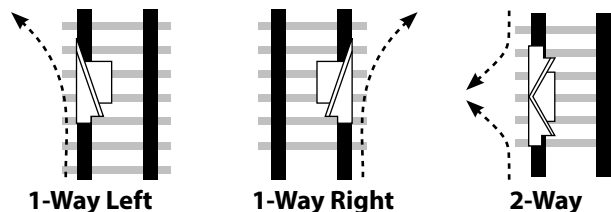
### Two-Way Freight Car Derails

Can be used with 4-axle locomotives and all freight cars. Do not use if 6-axle locomotives operate on your siding. The deflection angle is too sharp to handle the longer wheel base. Note that railroads are replacing older 4-axle locomotives with bigger 6-axle units for switching industrial spur tracks.

### Two-Way Locomotive Derails

Can be used with 4-axle or 6-axle locomotives as well as all freight cars.

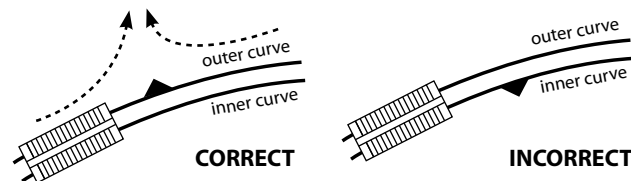
### Derail Throw Direction?



### Curved Track

In curved track, for more assured derailing, always install the derail on the outer curved rail. Wheels naturally hug the outer rail as they round into the curve, and thus are more likely to climb over the rail and into the ballast.

Conversely, wheels tend to draw away from the inner curved rail on entering the curve, thus reducing the likelihood that a derail installed on the inner rail will carry the wheel over the rail.



## Not Sure Where To Put Your Derail?

“ASK ALDON”

AskAldon@aldonco.com See page 62 for more details.

**One-Way Left Throw Derail (Manual Lift Sign)**



Suitable for 6-axle and 4-axle locomotives and freight cars.  
**10 mph or less**

**4014-01** (Manual Lift Sign)  
Weight 156 lbs.

**One-Way Right Throw Derails (Manual Lift Sign)**



Suitable for 6-axle and 4-axle locomotives and freight cars.  
**10 mph or less**

**4014-02** (Manual Lift Sign)  
Weight 156 lbs

**Two-Way Freight Car Derail (Manual Lift Sign)**



Suitable for freight cars and 4-axle locomotives.  
**5 mph or less**

DO NOT USE THIS DERAIL if 6-axle locomotives operate on your tracks Use our 2-way locomotive derail (4014-18) or our retractable derail (4114-11).

**4014-03** (Manual Lift Sign)  
Weight 170 lbs.

**Two-Way Locomotive Derail (Manual Lift Sign)**



Suitable for 6-axle and 4-axle locomotives and freight cars.  
**10 mph or less**

Low-angle deflection bar accommodates longer wheel base of 6-axle locomotives.

**4014-18** (Manual Lift Sign)  
Weight 190 lbs.

**One-Way Left Throw Derail (Pop-Up Sign)**



Suitable for 6-axle and 4-axle locomotives and freight cars.  
**10 mph or less**

**4014-10** (Pop-Up Sign)  
Weight 156 lbs.

**One-Way Right Throw Derail (Pop-Up Sign)**



Suitable for 6-axle and 4-axle locomotives and freight cars.  
**10 mph or less**

**4014-12** (Pop-Up Sign)  
Weight 156 lbs.

**Two-Way Freight Car Derail (Pop-Up Sign)**



Suitable for freight cars and 4-axle locomotives.  
**5 mph or less**

DO NOT USE THIS DERAIL if 6-axle locomotives operate on your tracks Use our 2-way locomotive derail (4014-20) or our retractable derail (4114-11).

**4014-14** (Pop-Up Sign)  
Weight 170 lbs.

**Two-Way Locomotive Derail (Pop-Up Sign)**



Suitable for 6-axle and 4-axle locomotives and freight cars.  
**10 mph or less**

Low-angle deflection bar accommodates longer wheel base of 6-axle locomotives.

**4014-20** (Pop-Up Sign)  
Weight 190 lbs.

**SaberTooth® Portable Derails**



Temporary derailing protection for exposed rails on wood and concrete ties. One-way and two-way derailing for industrial sidings and approaches to buildings. Aldon® portable derails stand 2-3/4" above top of rail to meet current railroad locomotive clearance requirements.

**Patented Design** U.S. Pat. #7,753,317

- Formed Steel Plate Housing.
- Use on wood or concrete ties. Do not use on steel or resin ties.
- Tool-free installation. No wrenches needed. Four thumbscrews anchor derail to rail head. No damage to rail surfaces.



**For freight cars and 4-axle locomotives only. Do not use with 6-axle locomotives.**

- Rails 100-142 lbs.
- Wood or Concrete Ties
- Tie Spacing 19-24" on centers
- **5 mph or less**

**4014-09-S** Two-Way  
Weight 57 lbs.



**For 4-axle and 6-axle locomotives and all freight cars.**

- Rails 90-142 lbs.
- Wood or Concrete Ties
- **10 mph or less**

**4014-06-S** Left Throw (Shown)

**4014-07-S** Right Throw  
Weight 48 lbs.



**Safety Hook.** If brace bar notch should slip off tie plate, hook bites into tie. Prevents derail from slipping.

**Retractable Derails**



One-way or two-way derailing. **Install on wood ties only.** Handle effort 29 lbs. to slide derail. Assembly includes derail, connecting rod, stand, and sign.

Customer furnishes two 14 ft. wood switch ties to support operating stand.



**4114-10-L** One-Way Left Throw Weight 460 lbs.

**4114-10-R** One-Way Right Throw Weight 460 lbs.

**4114-11** Two-Way Weight 550 lbs.

**TO ORDER:**  
**Request a Retractable Derail sizing form.**

## SIDEKICK Derail Booster



Use SideKick Derail Booster wherever additional derauling assurance is needed. SideKick is useful in curved track where the derail has to be located on the inner curved rail. Sidekick is installed opposite a hinged derail on the same two ties. Like a hinged derail, SideKick folds down between the rails when not needed.

NEVER use a SideKick alone. It should always be used in conjunction with the Aldon® hinged derail model specified below.

Worker must ensure that the derail and the SideKick are both in the same position (on or off the rail) at all times.

For use on wood ties.

### One-Way SideKick Derail Booster



**4014-15** Left-Throw (shown)  
Use only with  
Left-Throw Derails  
4014-01 or 4014-10

**4014-16** Right-Throw  
Use only with  
Right-Throw Derails  
4014-02 or 4014-12

### Two-Way SideKick Derail Booster



**4014-17** Freight Car (shown)  
Use only with  
Freight Car Derails  
4014-03 or 4014-14

**4014-19** Locomotive  
Use only with  
Locomotive Derails  
4014-18 or 4014-20

## Steel Tie Adapter Plate



**4014-13** 1" thick is welded to three steel ties.  
Custom-sized derail is bolted to plate.  
Plate accommodates all types of rail clips.  
Plate must be bought with a specially-sized derail.

## Safety Hook for Derails



**4024-303-D** To prevent accidental or unauthorized lifting of derail.

## Lifting Levers



"Self Ejecting" Lifting Lever for hinged derails.

24" long handle.

Handle effort 20 lbs. to flip the derail.

For 3/4" or 1" thick derail blocks.

Please check block thickness before ordering lever.

**4014-28** For 3/4" thick derail block. Weight 3 lbs.

**4014-25** For 1" thick derail block. Weight 3 lbs.

**Derail Awareness**



Draw attention to location of derails on your track in both travel directions. Designate how close a car can be shoved to a derail to avoid unintentional derailments. (Customer decides best distance between clearance markers and derails.)



**4015-144** Yellow Exposed Rail Weight 3 lbs.

**Signs**

**MoonSign**



18" diameter (over three times the area of the usual blue derail sign).

White retro-reflective facing and oversized DERAIL lettering on both sides mean MoonSign can be seen at a greater distance night or day than the usual small blue derail sign.

**4015-185** Sign plate fits any Aldon® hinged or portable derail sign holder.

**Replacement Derail Sign Plates**

Reflective 10" diameter round, .080" aluminum  
Printed on both sides



Weight 1.5 lbs.  
**4015-71** Blue



Weight 1.5 lbs.  
**4015-72** Red

**Lights**

**Flashing Blue LED Light for Sign Holders and Chocks**



**4115-01** Barricade-style, 7" diameter shatterproof Lexan lens, uses two 6-volt batteries. Battery case bolts to light-bracket. On-off switch and photo-electric cell. Flashes 60 times/min. Weight 3 lbs. Other lens colors available.

**Magnetic Mini-Light for Sign Holders**



**4015-32** Small but brilliant flashing mini-light with magnet base/steel clip. Fits all derails and sign holders, except 4015-02, 4015-03, 4015-04, 4015-241, 4015-188 and 4015-230.

**Padlocks**

For derails, switch stands, and other rail equipment.

**4124-97** Leaf Brass



a.

**4124-318** Solid, Plated H-11 Style



b.

**4124-319** Solid, Plated H-10 Style



c.

**Shackle Dimensions**

	diameter	inside length	inside width
a.	3/8"	1-1/32"	15/16"
b.	7/16"	1-5/8"	3/4"
c.	7/16"	11/16"	3/4"