

## THE ANATOMY OF A TRACK SWITCH

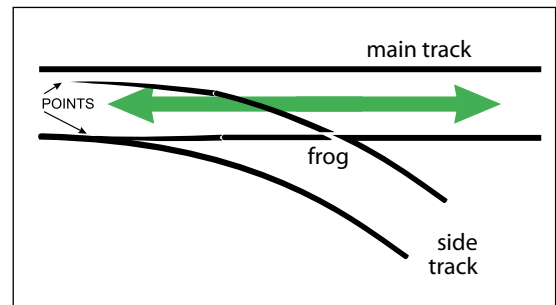
A switch creates two tracks — the main track and a side track turning either left or right (the photo shown above is a right-hand turnout). The heart of a switch is a pair of tapered rails called points which lie between the running rails and are slightly narrower in gauge.

The points are hinged at one end and are controlled at the sharp end by a connecting rod from the switch stand next to the track. When the switch stand lever is thrown, the points move from one running rail to the other. As the points move from side to side, a pair of sign plates (called targets) on the switch stand turn 90 degrees.

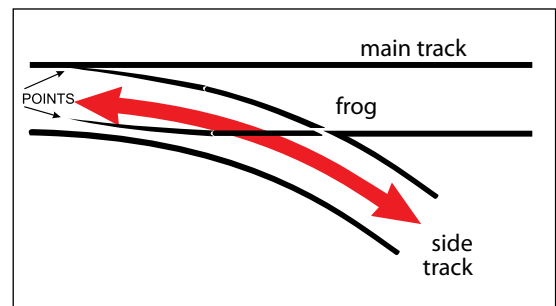
Traditionally these targets have consisted of one green plate and one red plate. The targets can be seen from either end of the switch, but only one color is visible at a time. The color of the target indicates the position of the switch.

When the switch points are moved, a gap is created alongside one of the running rails. This gap permits the wheel of the car or locomotive to go straight through the switch (indicated by a green target) or into the turnout (indicated by a red target).

At the other end of the switch, where the main track separates from the side track, a "V" shaped steel casting creates a gap on either side of the "V" to permit wheels to pass through on either track.



**Switch is lined for travel on main track.**  
Traffic in side track cannot enter switch.



**Switch is lined for travel on right-hand turnout.**  
Traffic approaching points end of switch can enter switch but can only go into side track.

**Replacement Switch Targets**



It is important that targets be replaced when damaged or missing. A rusty or bent target can cause confusion.

**New Century Target**

Manual switch stands: 50A, 51A, 51B.  
Attaches directly to round mast.



4115-166



4115-174

**Racor Target**

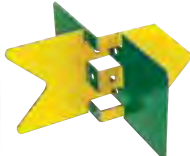
Manual switch stands: 22E and 36E.  
Plates are 6" x 5-1/4". Fits 1-1/2" adapter sleeve.



4015-206



4015-207



4015-209

Adapter sleeve is sold separately.

**Racor Mast Sleeve**

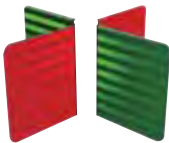
1-1/2" square x 8-1/2" tall.

4115-171

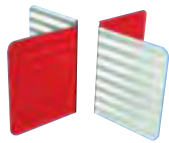


**National Trackwork Target**

Manual switch stands: 1004 and 1004 ARS.  
Plates are 6" x 5-1/4". Fits round adapter sleeve.



4115-164



4115-173

Adapter sleeve is sold separately.

**National Trackwork Mast Sleeve**

4115-165 1-1/4" OD x 8" tall.



**Tie-Mounted Signs**



A teaching aid for new workers and an ever-present reminder on how to "Read the Points." Mount sign plate on switch tie outside the rail and next to the switch points. With a glance, worker can reference the sign when either lining or approaching the switch.

**"LOOK AT THE GAP"**

Sign Plates 7" x 18" .080" Aluminum



4015-275  
Left-Hand Switch



4015-276  
Right-Hand Switch

**Track Sign Plates**



Tie-Mounted Sign Plates  
Specify track number when ordering.  
7" x 13" .080" Aluminum

4015-159 Track Number

**Easy-Throw Switch Handle**



Replaces heavy cast iron throw handle found on most switch stands.

- 4124-217 Models 12 RT, 12 RTH, 22
- 4124-217-B Models 50A, 51A
- 4124-217-A Model 36

**Aldon® Switch Cube® Indicator**

**A BIG IMPROVEMENT IN SWITCH TARGETS.**

**Workers can see at a glance how a switch is lined with no guesswork.**

**Symbols can be seen 200 feet away.**

**See video on website for more details.**



**You can look down the track and see if the switches are lined correctly for your car movement.**

**Standard Model**



**Solar Powered Illuminated Model**



**EASY TO INSTALL**

Fits round and square masts  
for all switch stand models.

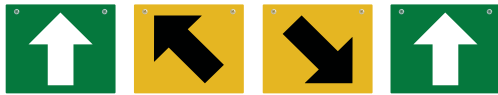
Platform bolts to mast.

4 sign plates 8" x 10" aluminum  
with reflective film.



**Three Choices of Colors and Symbols**

**Double Yellow**



**4015-164** Left Turnout



**4015-164-I** Left Turnout



**4015-165** Right Turnout

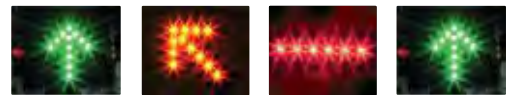


**4015-165-I** Right Turnout

**Red Stop**



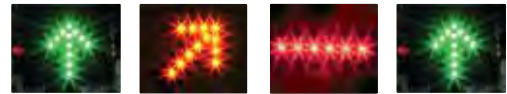
**4015-160** Left Turnout



**4015-160-I** Left Turnout



**4015-163** Right Turnout

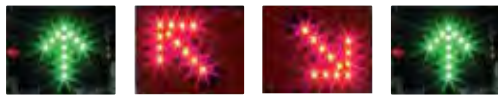


**4015-163-I** Right Turnout

**Double Red**



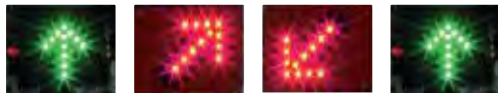
**4015-284** Left Turnout



**4015-284-I** Left Turnout

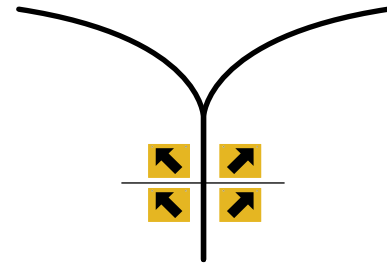


**4015-285** Right Turnout

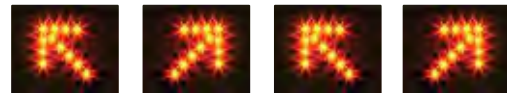


**4015-285-I** Right Turnout

**Wye Track**



**4015-224**



**4015-224-I**

Illuminated face plates shown here are darkened for clarity only.

## Switch Protection

### Switch Point Protector



**Protect switch points to reduce derailments.**

The sharp ends of switch points are vulnerable to wheel battering.

If a switch point tip gets mangled, it will not lie flat against the running rail.

Any gap between the switch point and the running rail will allow a wheel flange to slide in, "pick the point" open, and derail.



### For Industrial Spur Switches

The Protector is a pad of cast manganese steel bolted to the web of the rail two inches in front of the switch point blade of the curved closure rail. The pad momentarily bumps a wheel flange away from the tip of the point, with no damage to switch point or car wheel.

The pad can be reversed when one end is worn down. For use in yard tracks where speed is 5 mph or less.

**To order: Identify your rail size and section.**

If your rail size is not shown, contact us.

#### 4123-77

AREMA: 100 LB  
ARA-A: 100 LB  
AREMA: 110 LB

#### 4123-77-A

AREMA: 112 LB,  
115 LB, 119 LB

#### 4123-77-B

AREMA: 131 LB,  
132 LB, 136 LB  
140 LB  
AB: 141 LB  
NYC: 127 LB

#### 4123-77-C

ASCE: 85 LB, 90 LB  
ARA-B : 100 LB  
PS: 100 LB



#### 4123-77-D

ASCE: 100 LB

#### 4123-77-E

NYC: 105 LB  
PS: 130 LB

#### 4123-77-G

AREMA: 133 LB

#### 4123-77-H

AREMA: 141 LB

#### 4123-77-I

ARA-A: 90 LB

#### 4123-77-J

AREMA: 130 LB

## Switch Security

### Temporary Switch Point Lock (Rail Size 85-142 lbs./yd.)

Fine screw threads and 3-point handle hold switch point tight against running rail to within 1/32".



Use when making switch stand adjustments.

Protect track repair crews and rip track workers.

Padlock not included.

**4023-07** Weight 10 lbs.

### Long-Term Switch Point Lock (Rail Size 85-142 lbs./yd.)

No threads to rust. Sliding clamp locks in place with padlock. Use when closing a switch to traffic and to prevent a worker from accidentally throwing the switch handle.

Padlock not included.

**4023-43** Weight 7 lbs.



### Safety Hook for Switches



Temporarily takes the place of a padlock to prevent unauthorized movement of a switch.

Formed steel hook with stainless chain can be bolted to tie.

Meets FRA Regulation 218.103 (Switch Stand Securement).

**4024-303** Weight 2 lbs.



### Railroad 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.

#### 4124-178

Steel w/Chain

d.

#### 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"
d.	1-1/2"	1-1/4"	1-1/8"

## Switch Maintenance

### Wood Track and Switch Broom

Tough polypropylene bristles clean out flangeways in flush rail as well as keep switch points and switch frogs clean of debris, ice, and snow. Handle end has chisel blade for small scraping jobs.

**4023-19** Weight 3 lbs.



### "Ice Breaker" Aluminum Track and Switch Broom

If you work in ice and snow, you will find this broom useful with its unbreakable aluminum handle. Safe for food processing industry.



**4023-21** Weight 5 lbs.

### Switch Stand Track Broom Holder

Keep a track broom ready to use at every switch stand. Pound spear point base into ballast near switch and bolt square steel tube holder to it.

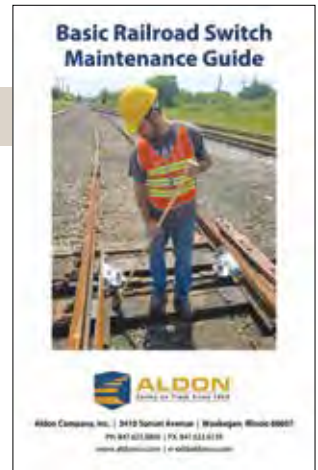


**4023-23** Weight 12 lbs.

### Switch Maintenance Guide

Information to keep your switches operating smoothly and safely.

Order your free copy online.



### GLIDEX Liquid Switch Stand Lubricant

Not soluble in water: Resists rain and snow. Resists build-up of dirt or dust on switch stand moving parts. Non-toxic synthetic ingredients. GLIDEX can be brushed, sprayed, or poured on switch points, throw rods, etc. 5 gallon bucket.

**4123-128** Weight 35 lbs.



### Sprayable Graphite Grease

Keeps switch points and switch rods from rusting and sticking. Flammable material shipping regulations apply.

**4124-106** 4 gals./case Weight 40 lbs.



### Track De-Icer

Sold in 5 gallon containers. Non-flammable and diluteable. (Use with spray tank 4123-79)

**4123-129** Weight 20 lbs.



### Applicators

#### Brush

Long-bristle poly brush

**4123-80**



#### Spray Tank

Keep all moving parts of a switch operating smoothly. 3 gallon capacity

**4123-79** Weight 10 lbs.

