

Arrow

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Language: English
Measure: English

Facts

Company: Arrow Dynamics
Address: Building H-12 Freeport Center
P.O. Box 160038
Location: Clearfield, Utah, USA
Telephone: 801-825-1611
URL: http://www.arrowdynamics.com
Status: Defunct
Operated from 1945 to ?
Roller Coasters: 101 (28 relocated)
Owner / Operator: Arrow was founded by Karl Bacon and Ed Morgan.

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Arrow



Roller Coaster Manufacturers

[Arrow Dynamics | Bitler | Bolliger & Mabillard | Caripro | Chance Rides | Church | Coaster Works | Cobb & Assoc. | Custom Coasters Int. | Dinn & Summers | Drambour | Gerstlauer | Giovanola | Gravity Group | Great Coasters Int. | Herschell | Hopkins | IAD | ICC | Intamin AG | Kings Entertainment Co. | Knoebels | L&T Systems | Mack | Maurer-Sohne | Meisho | Miler Coaster Co. | Miller | Molina | Morgan | Moris | NAD | Overland | Phare | Pierce | Pinfari | Premier Rides | Princeton | PTC | Reverchon | Rogers | Roller Coaster Corp. of America | Rosser & Cobb | Sangyo | Sansei | Schiff | Schwarzkopf | SDC | Setpoint | Sevier | S&MC | S&S Sports | Stricker | Taft | TOGO International | Vekoma | Vettel, A | Vettel, E | WED | Wisdom | Zamperla | Zierer]

SBNO = Standing But Not Operating FN = Former Name
RL = Relocated to another park R = Removed
* = Information only, no pictures

S&S Sports (top)

Known for its "Turbo Drop" and "Space Shot" towers, S&S has recently used its pneumatic launch technology to produce two roller coasters. Based in Logan, UT, they continue to push the thrill ride envelope. In the summer of 2002, they announced the creation of a wooden coaster division. In October 2002, they purchased the assets of bankrupt Arrow Dynamics.

- Dodonpa - Fuji-Q Highlands
- Hypersonic XLC - Paramount's Kings Dominion
- Power Tower - Cedar Point

Arrow

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Arrow Dynamics (Formerly: Arrow, Arrow Development, and Arrow-Huss) (top)

Arrow was founded by Karl Bacon, Edgar Morgan, and Walter Schulze in 1946 as a machine shop in Mountain View, CA. Walt Disney had Arrow assist in manufacturing some of rides for the new Disneyland in the 1960s. From 1966 to the 1990s, Ron Toomer helped create many steel coasters from Mine Rides to the world's first hyper-coaster. The Clearfield, Utah company filed for Chapter 11 bankruptcy protection in December 2001. S&S Sports bought the assets of the company in October 2002.



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ON TRACK: The Future of S&S Power

On Track...

10/24/03

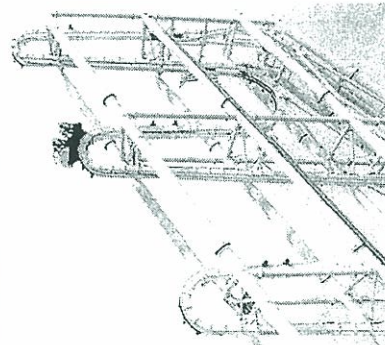
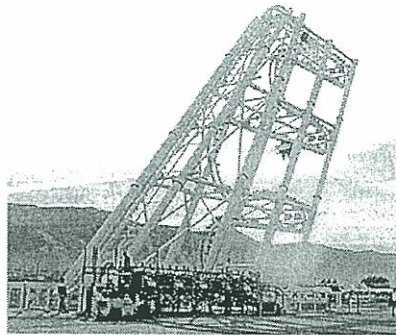
Anyone who knows a thing about rides in the Amusement Industry has heard of S&S and Stan Checketts, known world wide for their series of thrilling tower rides. Last year S&S made two major announcements... the purchase of Arrow Dynamics and the creation of a new Wooden Coaster division, picking up most of the creative people from CCI shortly after their former company closed up shop. Now S&S is ready to take the world by storm through a slew of innovative roller coaster projects.



S&S had once again invited me to journey to their Logan, Utah headquarters for a couple of days to take a long look at their latest creation... a little device we had a glimpse of last year called the Screaming Squirrel.

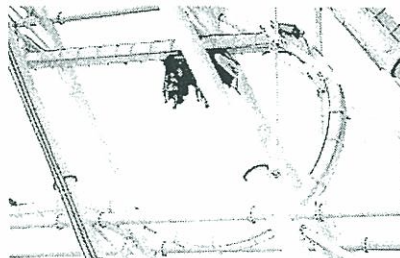
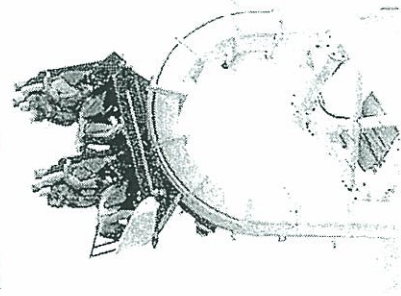
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The Screaming Squirrel - In short, the Screaming Squirrel takes the idea of a common Wild Mouse style coaster, but takes it to the next level... S&S style. The idea was to take the typical switch back track found on virtually every Mouse coaster and then to tum it sideways.

First you'll quickly climb to the top of the steep 88 foot tall lift hill where you quickly come face to face with the steep of the world. The four passenger car quickly speeds up as it approaches and runs right off the edge of a cliff... only to flip you upside-down.



Just before the blood starts to rush entirely into your head you realize that all of your body weight is comfortably held in place by the new innovative lap restraint system, instead of jamming your neck and shoulders up into the bars. Before you know what's happened, you hit another curve and the car rights itself back up once again... only to zoom off towards yet another plunge over the edge and under it once again.

Arrow Dynamics

From Wikipedia, the free encyclopedia

Arrow Dynamics was a roller coaster and amusement ride design company based in Clearfield, Utah, United States. In 2002, the company went bankrupt but was quickly bought by fellow amusement ride manufacturer S&S Power to form S&S Arrow.

During its peak, Arrow Dynamics was responsible for some of the biggest and most influential advancements in the roller coaster industry. From the first tubular steel tracked coaster, Matterhorn Bobsleds at Disneyland, to the first mine train roller coaster Run-A-Way Mine Train at Six Flags Over Texas, to the first modern inverting coaster, Corkscrew at Knott's Berry Farm, to the world's first hypercoaster, Magnum XL-200 at Cedar Point, to the world's first multi-dimensional roller coaster, X² at Six Flags Magic Mountain, Arrow Dynamics had a monumental and lasting impact on the roller coaster industry.

Roller coaster company Vekoma still uses Arrow-designed trains on some of their roller coasters.

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History

Beginnings

Arrow Development Company Inc was founded in 1946 when World War II veterans, Ed Morgan, Karl Bacon, Bill Hardiman, and Angus "Andy" Anderson, formed a small machine shop at 243 Moffett Boulevard, just north of Downtown Mountain View, California. They started out small, building merry-go-rounds and other rides for local amusement parks.

In 1953 they were contacted by Walt Disney, who was just beginning to plan a new type of amusement

Arrow Dynamics



Industry	Amusement Rides
Fate	Bankruptcy, bought by S&S Power
Predecessor(s)	Arrow Development Company Inc Arrow-Huss Inc Arrow Dynamics Inc
Successor(s)	S&S Worldwide
Founded	1946 (as Arrow Development Company)
Founder(s)	Karl Bacon Ed Morgan Bill Hardiman Angus Anderson
Defunct	2002
Headquarters	Clearfield, Utah, United States
Key people	Karl Bacon Ed Morgan Ron Toomer
Products	Roller Coasters, Log Flumes, Auto Rides

park in California. Disney admired Arrow's work and hired the company to help design and build the ride systems for many of Disneyland's original and early rides, including Mad Tea Party, King Arthur Carrousel, Mr. Toad's Wild Ride, Casey Jr. Circus Train, and Snow White's Scary Adventures.

While Arrow designed and tested these rides, Walt Disney made frequent trips up to Mountain View to check on their progress. Then the rides were quickly shipped down to Anaheim to be ready for the park's opening. Disney continued to use Arrow as he expanded Disneyland. The company went on to build Dumbo the Flying Elephant, Autopia, and Alice in Wonderland in coming years.

Move toward roller coaster manufacturing

In 1959, Arrow Development designed what was to be the first of their many roller coasters, the *Matterhorn Bobsleds* at Disneyland in Anaheim, California. Built in conjunction with WED Imagineering,^[1] the ride was the first modern tubular steel tracked roller coaster in the world.

After construction of the Matterhorn, Disney bought a third of Arrow Development and moved the company to a larger plant at 1555 Plymouth Street in the North Bayshore Area. At the new location, Arrow went on to develop new ride systems for Disney and developed the vehicles and tracks for It's a Small World, Pirates of the Caribbean, Adventure Thru Inner Space, and the Haunted Mansion.

When Arrow wasn't developing rides for Disney, it was creating rides for other amusement parks. It developed the modern log flume ride, which can be seen around the country in many amusement and theme parks today, with the first being El Aserradero in 1963. In approximately 1965, Bill Hardiman and Angus Anderson sold their interests in Arrow to Karl Bacon and Ed Morgan. In the 1970s the company perfected and brought back the loop into modern roller coasters.

Arrow Development began to make significant advancements in the roller coaster industry as well as major installations throughout the United States. In 1975, Arrow installed one of the most important rides of its time, Corkscrew, which made its debut at Knott's Berry Farm as the world's first modern inverting coaster. Arrow made dozens of coasters throughout the decades, including several Corkscrew-style coasters, many "runaway mine train" coasters like Cedar Creek Mine Ride and Adventure Express, custom-designed coasters like Loch Ness Monster, and Carolina Cyclone. Arrow Dynamics made large advancements not only in roller coaster technology but also in many other fields, such as in water rides (creating the hugely popular log flume rides), as well as many other family-style rides.

Some of Arrow Development's later projects included what were at the time the world's tallest roller coasters, such as Magnum XL-200 at Cedar Point in 1989 and Pepsi Max Big One at Blackpool Pleasure Beach in 1994.

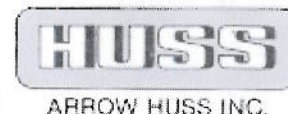
Reorganizations and Bankruptcy

In 1972, founders Karl Bacon and Ed Morgan decided to retire and sold Arrow Development to the Rio Grande Railroad. At the time Penn Central owned Six Flags and Rio Grande had plans to build several theme parks of their own in addition to owning a coaster-building



Matterhorn Bobsleds, the first Arrow Dynamics roller coaster.

company.^[2] After almost a decade of ownership Rio Grande sold Arrow in 1981 to the German manufacturing firm, Huss Maschinenfabrik, which merged with Arrow Development to form Arrow-Huss. Dana Morgan (Ed Morgan's son) was appointed president and Ron Toomer was made vice president and manager of engineering. Although the Arrow coasters continued to sell well, Huss got into financial trouble partially due to heavily investing in Darien Lake theme park in New York and the 1984 Louisiana World Exposition in New Orleans.^[3] Arrow Huss filed for bankruptcy protection in 1985, and 13 of the company's American officers negotiated a buyout. In 1986 the takeover was approved by the courts and the company re-emerged as Arrow Dynamics. Ron Toomer served as President until 1993, then Chairman of the Board until 1995, then as a consultant director until his retirement in 1998.^[4]



Arrow Huss Logo (1981-1985)



Arrow Dynamics Logo (1986-2000)

In the late 1990s, Arrow Dynamic's workload steadily decreased, with few installations toward the end of the decade. Other manufacturers such as Bolliger & Mabillard had entered the field and Arrow was no longer the dominate steel coaster manufacturer. Bankruptcy loomed once again as Arrow made their final attempt to stay afloat with *X*, a 4th dimension roller coaster at Six Flags Magic Mountain. *X* opened to massive media attention and received an initially positive reception.^[citation needed] However, several mechanical problems caused the ride to be closed for repairs during much of its first year of operation.

The company finally fell into bankruptcy in 2001. At the end of October 2001, the company's assets were sold to fellow amusement ride manufacturer S&S Power. The S&S Arrow division of S&S Power still operates, but basically only to make their 4th dimension coasters.

Milestones

- **1959**: The world's first tubular steel track coaster, Matterhorn Bobsleds, at Disneyland.^[5]
- **1963**: The world's first Log Flume, El Aserradero at Six Flags Over Texas
- **1966**: The world's first mine train roller coaster, featuring the world's first underwater tunnel, the Runaway Mine Train at Six Flags Over Texas.^[6]
- **1975**: The world's first modern inverting coaster, Corkscrew, at Knott's Berry Farm.^[5]
- **1976**: The world's first coaster with 3 inversions, Corkscrew at Cedar Point.
- **1977**: The world's first coaster with consecutive vertical loops, Double Loop, at Geauga Lake.^[7]
- **1978**: The world's first interlocking loops, Loch Ness Monster at Busch Gardens Williamsburg.
- **1980**: The world's first coaster with 4 inversions, Carolina Cyclone at Carowinds.
- **1981**: The world's first modern suspended coaster, The Bat, at Kings Island.^[5]
- **1982**: The world's first coaster with 5 inversions, Viper at Darien Lake.
- **1984**: The world's first successful suspended coaster, XLR-8 at Six Flags Astroworld and Big Bad Wolf at Busch Gardens Williamsburg
- **1987**: The world's first coaster with 6 inversions, Vortex at Kings Island.



Magnum XL-200, the first roller coaster in the world to pass the 200 ft mark.

- **1988**: The world's first coaster with 7 inversions, Shockwave at Six Flags Great America.
- **1989**: The world's first Hypercoaster, Magnum XL-200, at Cedar Point.^[5]
- **1994**: Europe's tallest, steepest and fastest coaster, Pepsi Max Big One at Blackpool Pleasure Beach in Great Britain.
- **2002**: The Olympic Cauldron for the 2002 Winter Olympic Games in Salt Lake City was lit. Arrow Dynamics designed the steel frame supporting the structure designed by WET Design.
- **2002**: The world's first 4th dimension coaster, X, at Six Flags Magic Mountain.^[5]

See also

- List of Arrow Dynamics roller coasters

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External links

- Front Seat On Ride Video of Arrow Dynamics Prototype 4D Roller Coaster X2
- S&S Worldwide, the successor to Arrow Dynamics
- Arrow: Building a Dream from themagiccye at Joyland Books

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Companies disestablished in 2002

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