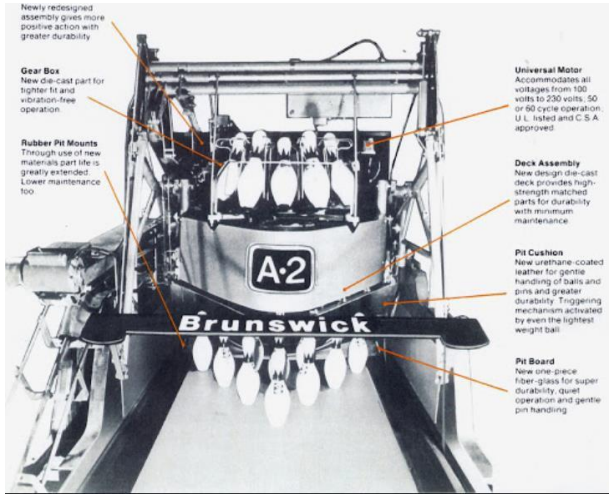
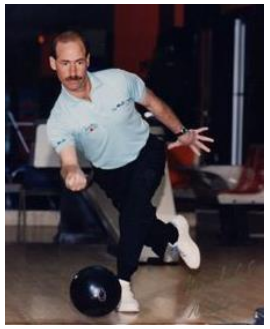
BOWLING INNOVATIONS

From 1906 to 2022 changes in the sport of bowling





Introduction

In this presentation, the Bowlology Academy will explain the innovations in the sport of bowling from the automatic pin-setter to the string pins. There have been numerous innovations within the sport. Back in the 19th century, bowlers were trying to obtain more hook. Bowlers would cut the ball in half and add a block of wood and then glue it back together. By doing this, the pro-shop operator needed to find the dodo balls which led to the invention of the dodo scale. Bowlers could go to New York City and bowl a 60-foot lane. Then they go to Chicago to bowl on a 30-foot lane. This led up to a uniform bowling association known as the American Bowling Congress (currently United States Bowling Congress). The ABC was founded in July of 1895. They quickly standardized rules and regulations including the 300-game and the 12-inch spacing between pins. A rules committee with Sam Karpf as the first ABC Secretary was formed to get the standardization process going. “Nearly 1,000 copies of ABC rules” were sent to known bowling centers with an invitation to ratify those rules in January of 1896. Bowling centers in Canada also joined in 1896. Bowling has been a changing sport from early on - from the balls to the pins. Even the bowlers have revolutionized the way the bowlers bowl from one-handed to two-handed and from two fingers to three fingers in the ball. Bowlers have always wanted to increase their score on a consistent basis.

Fathers of the Modern Power Game

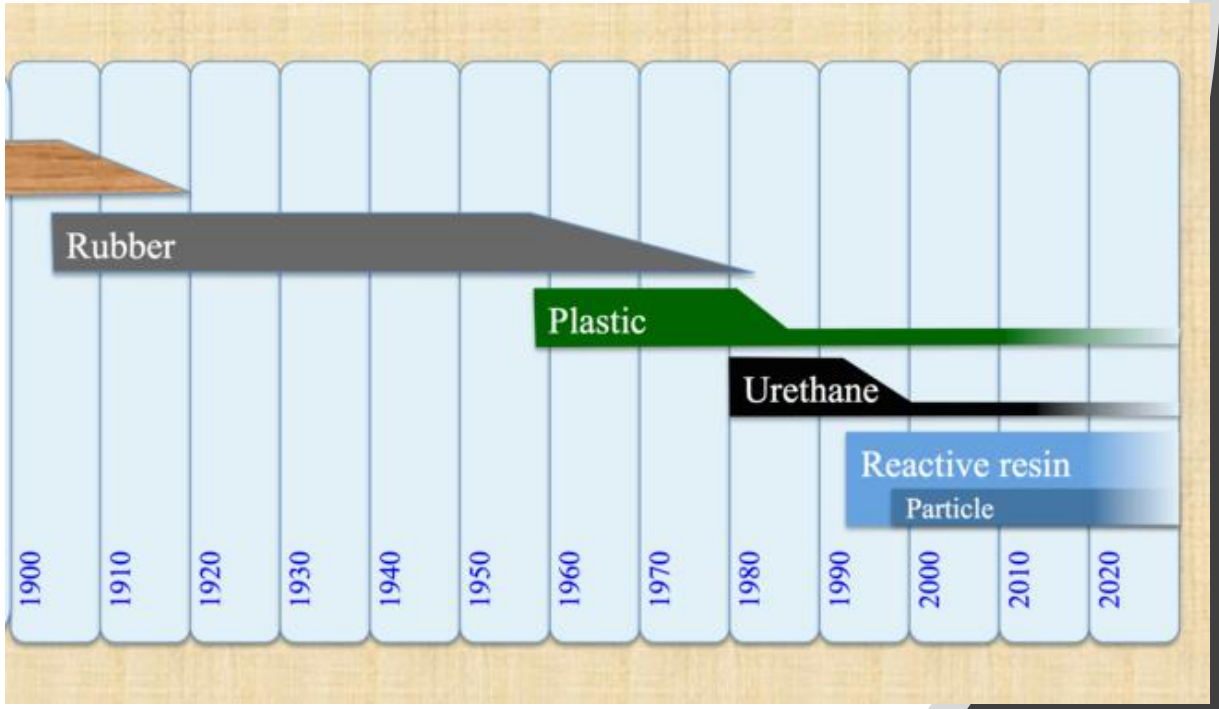
Mark Roth and Marshall Holman were the fathers of the modern power game in mid-70's. They hooked the ball like no other bowler could bowl. Mark Roth went hard and straight at his spares. Marshall Holman was a finesse power game player. He would go on to win two U.S. Opens and two Tournament of Champions. They would also become the second and third bowlers to earn a million dollars by throwing a bowling ball.

Power Game 2.0

In the finals of the 2004 U.S. Open, a bowler from Finland named Osku Palermaa introduced a new type of power game with a two-handed style. Five years later, a bowler from the land down under named Jason Belmonte was named PBA Rookie of the Year with his exceptional two-handed bowling. The style would enhance more revs and the pins would fly more from the force of the collision. Jason Belmonte would dominate the Majors on the PBA Tour from 2011 to the present earning seven Player of the Year awards.

First Bowling Ball

This a replica of what bowlers likely bowled with in the early 20th century. Bowlers would cut the ball in half to add a block of wood to the ball so they could generate more hook. The early pro-shop operators devised a scale to screen out counterfeit or contraband bowling balls at tournaments. Bowling balls were initially drilled with two finger holes, so the bowler would use his middle finger and his thumb.



Bowling Ball Coverstocks

Though five thousand years of bowling balls have advanced from rocks-to-wood-to-rubber-to-plastic urethane-to reactive resin. Bowlers have been trying to master the sport of bowling throughout history. The early bowling balls were not conducive to shooting high scores. Bowling ball technology has improved during the last 50 years. In the AMF pro-staff video from the mid-1990's, Steve Wunderlich, Lelia Wagner, Del Warren, and Dick Weber discussed major changes in the sport of bowling. When Del Warren asked Dick Weber what he saw as the major innovation during his tenure, Weber responded – the bowling ball. Bowling balls have come a long way.

Bowling Balls

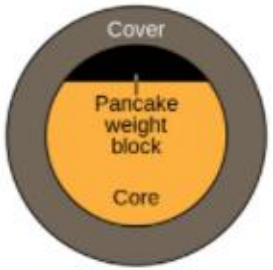
In 1973, Don McCune soaked his bowling balls in M.E.K. (Methyl Ethyl Keytone). This made the coverstock softer which allowed the ball to have more hook. McCune would win six titles and earn $69,000 dollars and become the Player of the Year. The next year, the PBA banned the use of M.E.K. or any chemical softening agent applied to the coverstock. Over the years, bowlers would sand their balls to make the breakpoint closer to the bowler. In the early days of the PBA, the PBA would only oil the lanes one time each day. The lanes would hook more in the night than in the morning. Bowlers bowled twice the first day of the tournament and then once the next day. Bowling balls have become high tech over the course of the last 50 years.

Tour Edition Bowling Balls

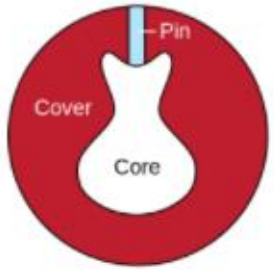
In 1996, Brunswick came out with the Danger Zone bowling ball. Brunswick also invented the concept of a tour edition bowling ball. A pro-bowler bowls on challenging lane conditions and a tour edition touring ball would enable the pro to use the Danger Zone. It was possible to have various weight blocks inserted into the ball and the pin color determined what weight block was in the ball. For example, a bowler could have a green-pin Danger Zone. This ball's characteristics had a T2 weight block with the same coverstock as the original Danger Zone. Brunswick would use this program from 1996 to 2000.

Solid vs Pearl Bowling Balls

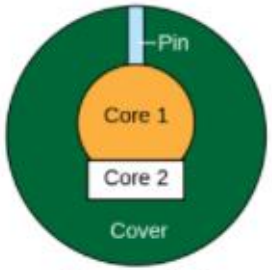
- Solid vs Pearl. A solid ball is usually going to use up energy earlier meaning it will bring the break point closer to the bowler. Whereas a Pearl ball has an additive in the coverstock so the ball can retain energy and go through the pins and give a reliable strike. In the back end of the lane, the solid ball will go straighter than the pearl. It all depends on the surface of the ball.



Three-piece ball



Two-piece ball



Two-piece ball modified

Symmetric

Ceramic Core

Asymmetric

Weight Blocks

Weight Blocks were first used with the Johnny Petraglia LT-48 back in 1976. Weight Blocks are like the engine of a bowling ball. Pro-shop operators know where these weight blocks are by the riser pins. If there is a smaller pin on the ball, this means that ball is asymmetrical. If there is no secondary riser pin on the ball, then the ball is symmetrical.

A symmetrical weight block would be like a baseball where it is equal & balanced on all sides. The Ceramic core is a secondary core inside the weight block. An asymmetrical core is a like a coffee mug where it is unequal in dimensions and the weight is unbalanced.

Finger & Thumb Inserts & Tape

In 1980 bowlers were introduced to a new product that kept their fingers from being injured with the use of soft rubber insert tubes that went into the ball where the fingers and thumb holes would be. This allowed bowlers to bowl longer games without injuring their fingers or thumbs. Twenty-six years later the bowling industry came out with the interchangeable thumb to switch out grips without drilling multiple thumb. Bowlers could go to one ball to the next ball without worrying about the feel.

Back in the 60's started to use tape to tighten finger and thumb holes. Today bowlers use tape to not only tighten their finger holes, also to protect the hand so that they can bowl longer periods of time.

Bowling Ball Bags, Towels, Microfiber, Shammys, Abralon Pads, & Cleaners

When bowling balls became more high-tech, bowlers would have multiple bowling bags to carry their equipment. In the early 21st century bowling companies started to add wheels to the bag's so bowlers did not have to carry heavy amounts of weight on their shoulders. This improved a bowler's ability to transport their own equipment.

In the early days of high-tech bowling balls bowling manufacturers would only produce a bowling towel. This really did not wipe the oil off the ball it just smeared around more. Then they came out with the microfiber towel. This was more absorb ant to get the oil off the ball. Today bowlers are using shammys. These get the oil off the ball.

Abralon pads came out in the 2000's. This allowed bowlers to manipulate the ball by adding more surface and shining up the ball a lower grit. It brings the break point closer to the bowler as a bowler uses a higher grit. It delays the break point.

Ball cleaner allows the bower to clean the ball a bowler should clean the ball every twenty games. By keeping the ball clean this allows the bowler to keep it just as came out of the box. It is recommended that a bowler cleans their ball every twenty games.

There are three different types of soles and heels.

Slide Sole

Traction Sole

Brake Heel

Bowling Shoes- Soles and Heels

Bowling centers have different approaches, some approaches are stickier than other approaches while others can be slick as ice. Older bowling shoes allowed a bowler to add inserts that would automatically lock in place. Dexter shoes came out with the interchangeable sole and also an interchangeable heel that was attached by Velcro. This allowed bowlers to adapt to different approaches and save money by not having to buy several different types of shoes or replace whole shoes as often as before.

OverLane & Underground Ball Returns

In the 50’s and 60’s, Bowling Ball Returns were over the gutter cap. Bowlers could see balls coming back in their side vision as they were in their approach and were limited in their adjustments.

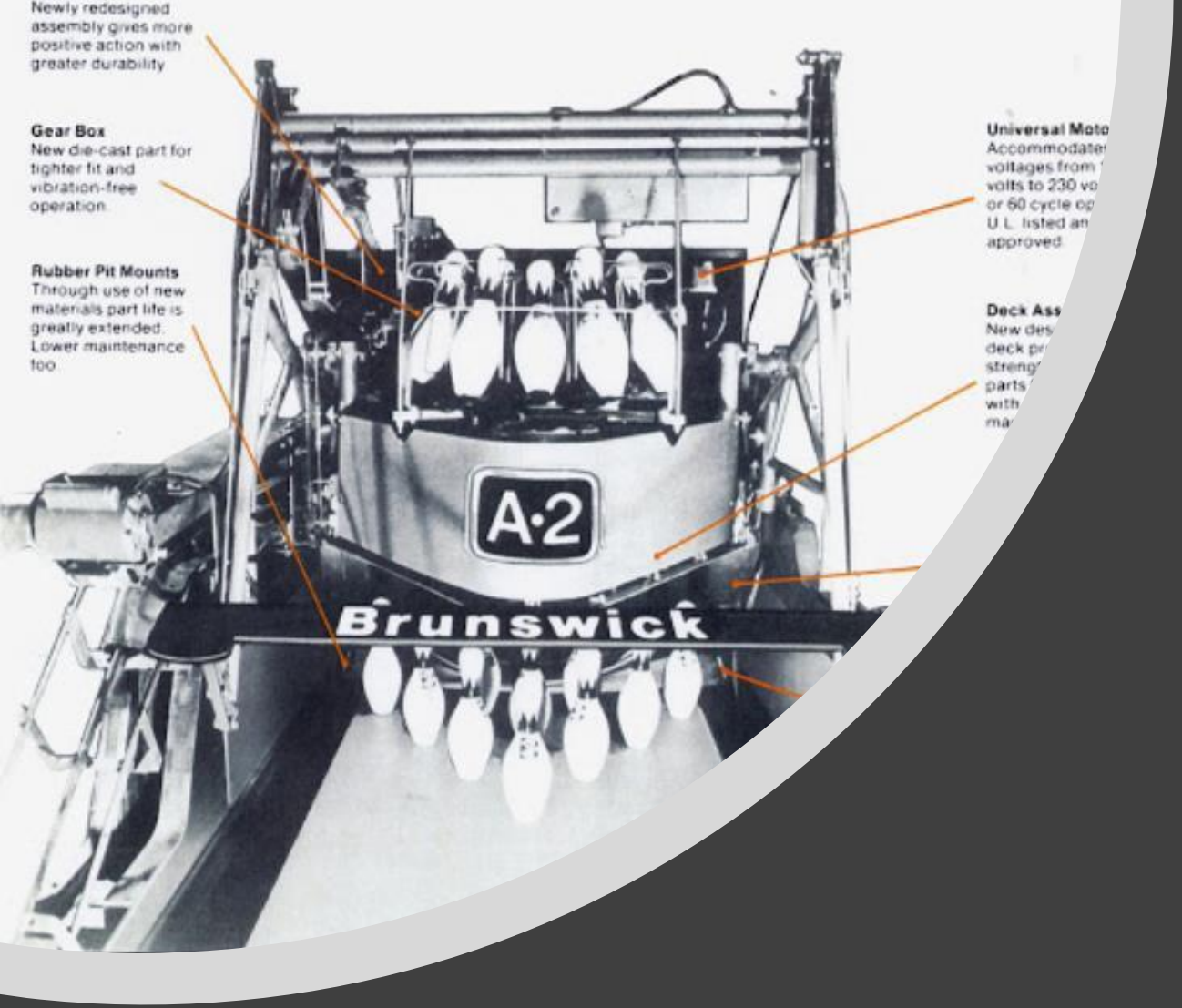
The underground return allowed bowlers to open the lane up even more when the lanes were breaking down.

Lane Oil

- In the beginning lane oil was used to clean the lane. Bowlers did not comprehend the effects of the oil between the bowling ball and the lane. It was evenly distributed across the lane and the maintenance process was just add more oil to the lane. In the 80s and 90s they started out different oil patterns and oil densities. Around the same time lanes were cleaned and re-oiled daily.

Lane Machines

In the early days of lane maintenance bowling mechanics would have to oil the lanes with a bucket and a mop. This procedure would take hours to do the entire center. The first lane machine would oil the lanes but not clean the lanes. Now today lane machines are doing the work of cleaning and oiling the lanes. Oiling a lane does not necessarily mean scores are going to be high or low. Oiling can also mean protecting the lane surface. In the old days lane mechanics would use a bug sprayer to oil the lanes. Bowling proprietors and lane mechanics would oil and clean lanes manually, with the advent of the lane machines it became easier.



Automatic Pin Setter Machine

The automatic pin setter machine was invented in 1906 and patented in 1941. AMF introduced a prototype to the general public in 1946 at an America Bowling Congress tournament but these did not really arrive at the lanes until 1956 when the Brunswick company introduced them to bowling centers.

Synthetic Bowling Pins

In 1962, USBC approved the use of synthetic bowling pins for use in bowling tournaments replacing the maple hardwood pins. This made the scores jump higher and go through the roof. Some critics say this hurt the sport of bowling because the lack of accuracy that occurred with synthetic bowling pins. Bowlers could hit the pins at a glancing blow instead of head-on in the pocket and still strike.

String Pins

In 1961, a bowling manufacturer invented string pins. It would be several decades before this concept would take off. This would enable bowling centers to have lower installation and maintenance costs due to its simpler setup. Bowlers can still convert hard splits like the 7-10.

Automatic Scoring

Back in 1967, some Bowling centers went to automatic scoring, and bowlers were not required to keep their own score. Robert Reynolds invented the first automatic scoring device. This made bowling teams happier as they did not have to pay a score keeper to keep bowlers scores. In the early years of automatic scoring, it was hard to see what bowler was scoring because of the size of the screen. Automatic scoring has made it convenient for bowlers so all they had to do was concentrate on their bowling. Years later, automatic scoring would get easier to read on the monitor.

Specto Bowling(originally C.A.T.S computer aided tracking system) is software designed for bowlers and coaches to measure how fast and how many raves on the lane. It can tell the bowler or the coach what they need to work on to improve their scores.