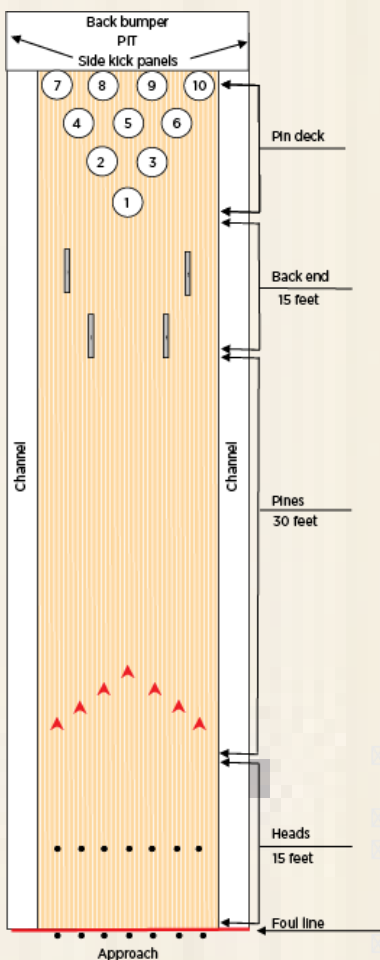


# The Sport of Bowling

Presented by

Josh Hyde, Bowlologist



X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
30	H	E	130	100	100	200	G	200	A	200	M	300	E	0



A Bowlologists Complete Study as a higher standard for the sport.

This study takes a look at the sport of bowling and why it should be taken seriously as a sport.

# The Sport of Bowling

Hello, my name is Josh Hyde. Welcome to the sport of bowling. In this study, I take an in-depth look at the sport of bowling. As a Bowlologist, this is my lane study supporting how this is a sport. Back in November of 2011, the *Josh Hyde's Bowling Newsletter* invented a column called **Bowlology**. This column was dedicated to providing information about the instructional side. This series of presentations & articles cover the entirety of the sport of bowling. The three bowlers on the cover page are one of the elite groups in PBA history. From the greatest moments to the forefathers of bowling, they made the sport what it is today. Some critics might say that bowling is not a sport. This presentation dives into a detailed examination of why a person should become a bowler and part of this sport that is for everyone.

Josh Hyde  
Bowlologist, B.L.P.



# Definition of a sport

What is the definition of sport

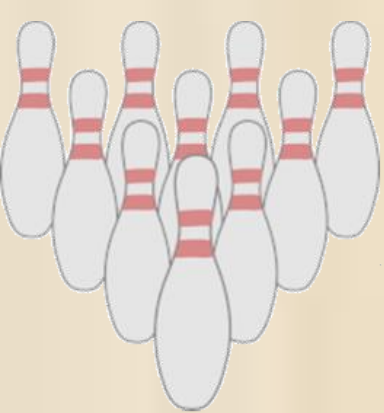
an activity involving physical exertion and skill in which an individual or team competes against another or others for entertainment.

# Is Bowling a Sport

Some bowlers today may say that bowling is not a sport. This is because of the bowling ball technology. Another reason why they may say bowling cannot be considered a sport is because the athletes do not have to run or break into a sweat. However, bowling is indeed a sport. If people do not think that bowling is a sport, I would like to ask them: "What do they call throwing a 16-pound ball down a lane and hitting ten targets? Bowling is indeed a difficult sport to come by, even if bowlers are able to drill a ball to do specific tasks at hand. If a ball does not see friction on the lane, no matter how much of a strong layout they have drilled into the ball, it will not hook. The bowlers still must have the skill to throw the ball to knock over pins. The ball cannot get a strike by itself. Bowling is a sport because a bowler must make a delivery to knock over the pins. Until the bowling industry makes a remote-control bowling ball, in my mind, bowling will always be a sport. We all love to bowl. We love the competition. Whether it is in a league or a tournament, for a local-town trophy or the Tournament of Champions, bowlers are competing to win. Throwing a 16-pound ball to get down ten pins in one or two shots is not an easy task. Even though today it may be slightly easier to roll a 300 game now than it was in the 70s, a perfect game is still a perfect game and is still an extremely difficult feat. For people who may think that bowling is not a sport, I would suggest they try a sport (local) bowling league. These are more challenging lane patterns and are used on the PBA Tour. When they can average 230 a game on these patterns, maybe I will rethink my stance. Until then, bowling is definitely a sport.







# Bowling is a sport

27 inches is the circumference of a bowling ball.














15 inches is how tall a pin is.

60 feet is the length from the foul line to the headpin.

There are ten pins and ten frames in the sport of bowling. A bowler can receive a perfect score of 300.

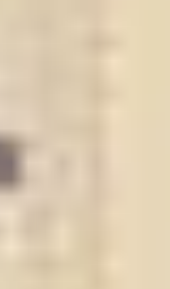
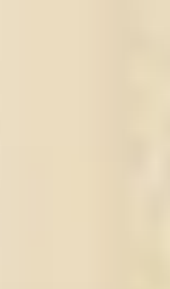
Bowlers receive two shots per frame to knock over all the pins.



Name	1	2	3	4	5	6	7	8	9	10
										   
	30	60	90	120	150	180	210	240	270	300

# Objective of Bowling

A ball must hit the pins to get them to tilt at six to eight degrees to off its axis for the pin start to it's fall in one to two shots per frame with a bowler attempting to strike twelve times in a row for a 300 game. The best way to get a strike is to aim for 1-3 pocket (a left-handed bowler should aim for the 1-2 pocket)



# Scoring Rules

Scoring system explained

Strike equals 10 plus the next two balls labeled as X.

Spares equals ten plus next ball labeled as /

Open should add the two balls together in that frame labeled as a –

A Split is labeled with a circle around the number ○

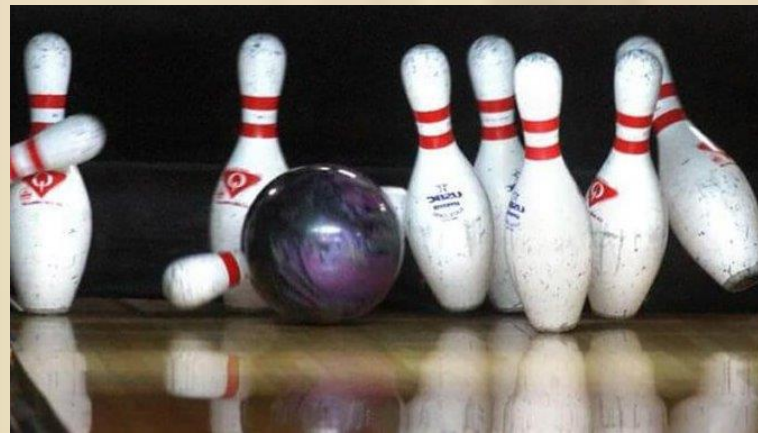
	1		2		3		4		5		6		7		8		9		10		
Score	9	/	5	1		X		X		X	6	2	7	/	9	/	8	-	X	9	/
	15		21		51		77		95		103		122		140		148		168		
Frame	9	1	5	1	10		10		10		6		2	7	3	9	1	8	0	10	
Spare	5				10		10		6				9		8				9		
Strike					10		6		2										1		
Total frame	15		6		30		26		18		8		19		18		8		20		

# Strikes

Strikes are what a bowler wants to achieve in each and every frame. There are different types of strikes. The ultimate strike is known as ten-in-the-pit and is the textbook strike where the ball hits the 1-3 pocket, and all pins are knocked over at nearly the same time and fall straight back. Another strike is called Brooklyn, for a right-handed player would be where the ball crosses over the one two pocket and receives a strike for that frame.

There is also the light mixer this is where the balls enter heavy on the three pin for the right hander and the two pin for the left hander. It skims the head-pin and the pins scatter. The ball comes in at a greater angle and is able to create better pin action. Some bowlers prefer this because this allows them a bigger pocket creating a wider margin of error.

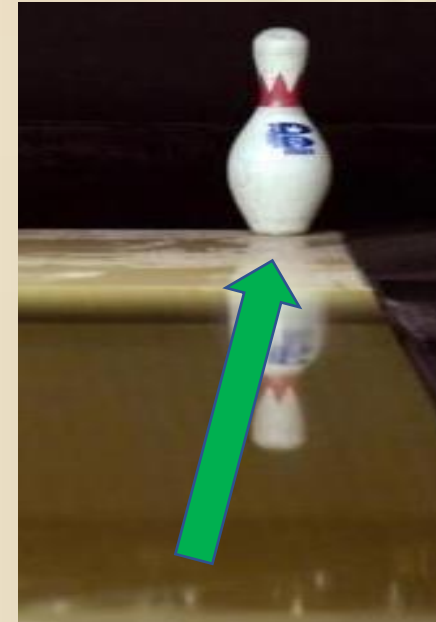
Bowlers need to string enough strikes together in order to give themselves a solid foundation for a high scoring game where spare shooting can finish the rest.





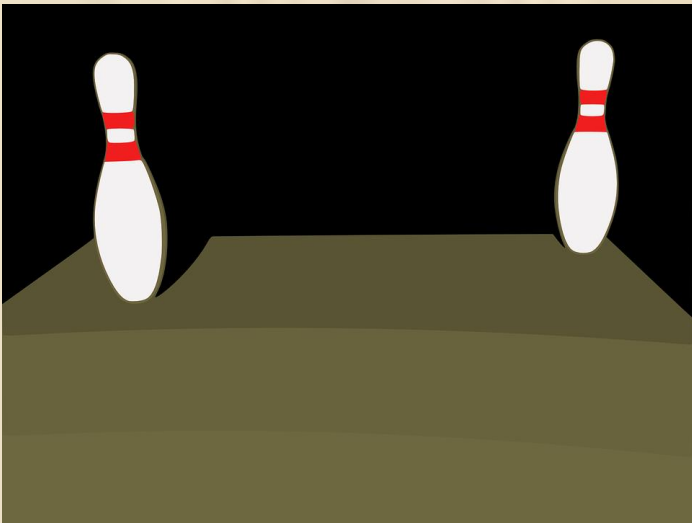
# Spares

Spares are vital to any bowler. If a bowler does not make a spare in some games, it could cost him or her a spot in the cut. It is usually recommended that a bowler goes hard and straight at the spare, taking the lane condition out of the equation and using a plastic balls for their spares. The picture on the left is a one pin spare. This particular spare shown on the left is the five pin. Bowler will usually practice their strike line in the center part of the lane, and they can get a practice ball to see what adjustment they can make. However, on the ten pin it's more appropriate to go hard and straight.



# Splits

Splits occur when a bowler leaves a gap of more than one pin on the first ball of a frame. The first image is an example of a 4-10 split. A bowler needs to evaluate their game to see if they need the conversion or the count. The image in the middle demonstrates a bowler getting the count. They would get one more pin and a 9 for the frame. The last image demonstrates a bowler attempting a conversion of the 4-6-7-10 split. This is risky because they could miss the 6 or go into the gutter.





# Reading the lanes

A right-handed bowler is reading the lanes from right to left. A left-handed bowler is reading the lanes from left to right. The first dot from the right is the fifth board for a right-hander player. The first dot from the left is the fifth board for a left-hander player. There is a foul line and thirty-nine boards on the lane. The arrows are targeting the devices for the bowlers. Each arrow lines up as board, dot and pin. The pins numbers are the same for both right- and left-handed bowlers.

# Bowling Pins

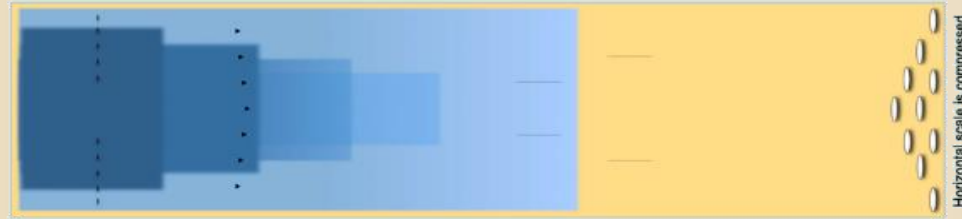
There are ten pins shaped in a triangle. Four pins(7,8,9,10) are in the back row, three pins(4,5,6) are in the second row, two pins(2,3) are in third row and the one pin is in the front. This forms the shape of an equilateral triangle.







Typical House Shot (THS)

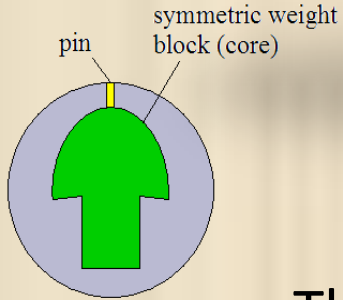


Sport Pattern

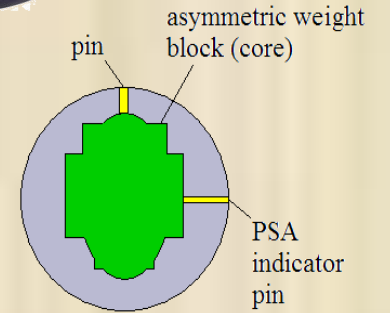
# Oil on the lanes

Oil is on the lanes to protect the surface of the lane and to tell the bowlers if the scoring pace is going to be high or low. It will determine how a ball will respond as it moves down the lane.

In pro-tournament play the oil ratio is one to three, in league play it is twelve to one.



Cross Section View



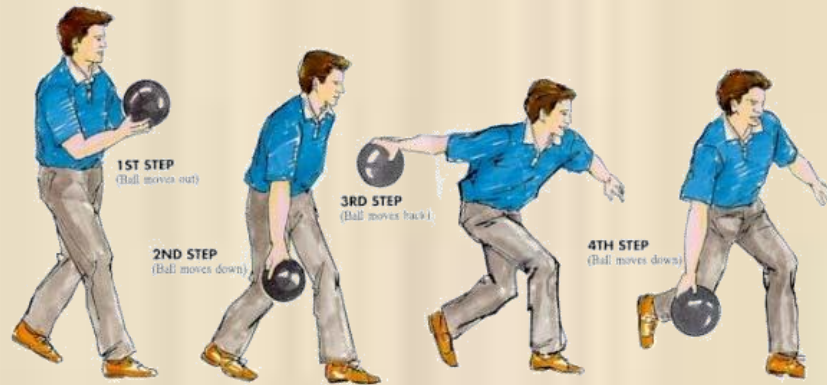
Cross Section View

# Bowling Balls

There are three main types of bowling balls, plastic, urethane, and resin-reactive. The bowling ball has a weight block in the ball. There are different types of weight blocks. Symmetrical and asymmetrical weight blocks. Asymmetrical weight blocks have an odd shape if someone cut in half one side will not match the other side. Symmetrical ball both sides are the same when someone cuts it in half.

# The Approach

The bowler should decide their approach to the foul line. There is a basic guide for beginners, but they can modify their steps and movements depending on their preference. There is no wrong way to throw a bowling ball.



At the left is an example of textbook four-step approach which is common for beginner bowlers. Both the feet and the ball start moving at the same time. On the second step, the ball is at the side of the bowler and swinging back. On the third step the arm fully back and the fourth step is the slide and release.

# Bowling Equipment

In order to compete at any level, a bowler must decide on how serious he or she wants to take the sport. At a local bowling center, the house bowling balls and bowling shoes are there for the general public. The holes could be too big or too small depending on the bowler. Developing a bowling ball arsenal is one of the key things a bowler must decide on any competition level. It is essential that a bowler get their own properly fitted bowling ball. The pro-shop operator and a bowler must communicate with what the bowler is trying to achieve. The pro-shop operator is more capable to drill the thumb hole a little bit bigger to benefit the bowler so that bowler can learn to put tape in the ball. Also, a custom pair of bowling shoes is important because at the bowling center both shoes have leather on the soles, so it is easier to slide on the approach whether a bowler is right or left-handed. A one to three ball bag also is a factor in deciding what kind of bowler they want to achieve to be.





# Competition –Leagues and Tournaments

Leagues are generally a group of bowlers who compete weekly against each other. Three to five players will be on a team. These leagues are comprised of three games every week. At the end of the season, the league has a roll-off to determine who is the winner of the league. These are mostly bowled on house oil patterns.

Players will likely have high scores on this pattern.

Tournaments are generally one to five days long. These events are usually harder to score on for the pro and amateur. The USBC Open Championships is three months long to accommodate all the USBC Bowlers that want to compete. This is their chance to earn a national title. In Pro-Tournaments, only the best bowlers in the world are competing against each other. These tournaments are usually on television. These pro-bowlers have bowled at least 18 to 56 games in each tournament. Plus, practice and they are switching lanes after every game.

Bowlers are carrying five to forty bowling balls at a tournament. This gives a bowler options for various lane conditions. At the US Open, a bowler can only have a maximum of ten bowling balls on their ball card. A PBA Tournament bowler is bowling on multiple patterns. Bowlers have to consider topography of the lane in a bowling center.

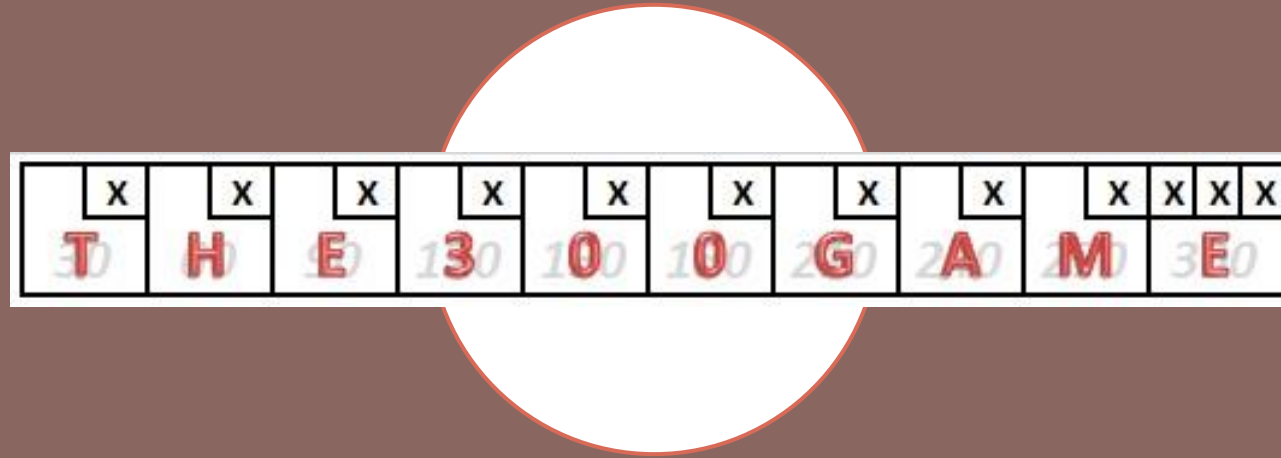


At Left- Jason Belmonte, Earl Anthony, and Walter Ray Williams, Jr.- the three greatest bowlers in the history of the PBA.



- 1895 The ABC was founded currently known as the USBC.
- 1932 Bowling was an exhibition sport in the Olympics.
- 1936 the first mechanical pin setter was invented by AMF.
- 1958 Eddie Elias founded the PBA.



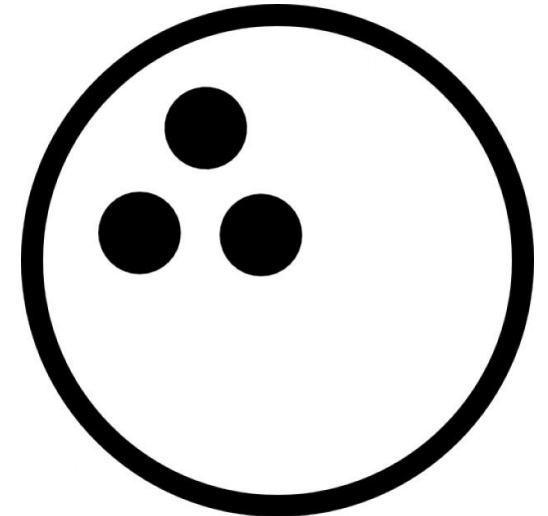
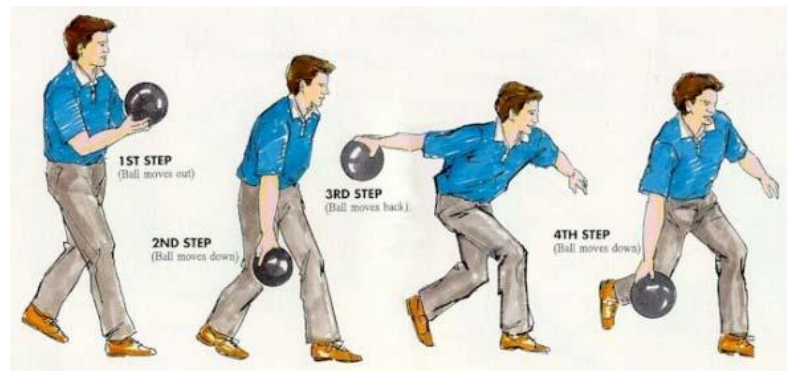


# The Perfect Game

In this class, students will have an opportunity to gain more knowledge about the sport of bowling.

# Introduction

In this class, the student scores were not up to par. They needed more knowledge about the sport of bowling. They passed Bowlology 200 at the same time. They did not gain the knowledge to be a coach. This class fills in that void for those who need to improve on their knowledge.





# Bowling Facts

- The first athlete to sign a seven-figure endorsement was Don Carter
- The longest sport that has been on television is bowling.
- In 1895, the American Bowling Congress was founded to make bowling a more uniform sport.
- In 1906, the first patent for an automatic pin setter was filed with the Patent Office.
- In 1913, Bowlers Journal was the first magazine strictly devoted to bowling.
- In 1901, the American Bowling Congress held their first tournament.
- In 1932, Bowling was introduced in the Olympics as an exhibition sport.
- In 1941, the ABC founded the American Bowling Congress Hall of Fame.
- In 1941, the inaugural BPAA All-Star (also known as the US Open) took place.
- In 1951, The ABC started the Masters Tournament.
- In 1958, Eddie Elias an attorney from Akron, Ohio founded the PBA.
- In 1959, Lou “Wrongfoot” Campi won the first PBA Tournament.
- In 1960, Don Carter won the first PBA National Championship currently known as the PBA World Championship.



***Bowlers Journal***  
INTERNATIONAL

# Pinnacle of Bowling

In 1958, an attorney named Eddie Elias, founded the PBA. It was the 1958 USBC Masters where Elias & 33 charter members founded the PBA. He asked them to put up \$50.00 apiece to start the PBA. Some legends were a part of that meeting like Dick Weber, Don Carter and Carmen Salvino. The next year, there would be three tournaments. The first one would be won by Lou "Wrong Foot" Campi. The next two would be won by Dick Weber.

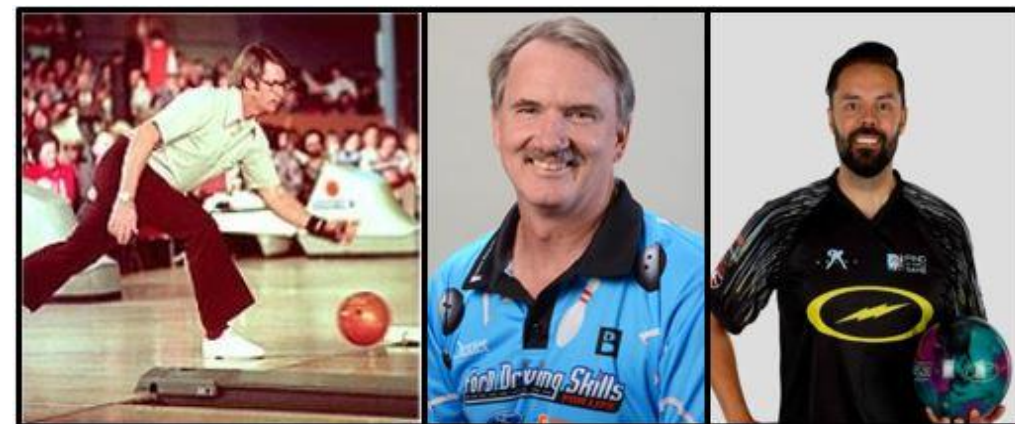
The first year of the PBA the bowlers would compete for \$49,500 for the three tournaments.

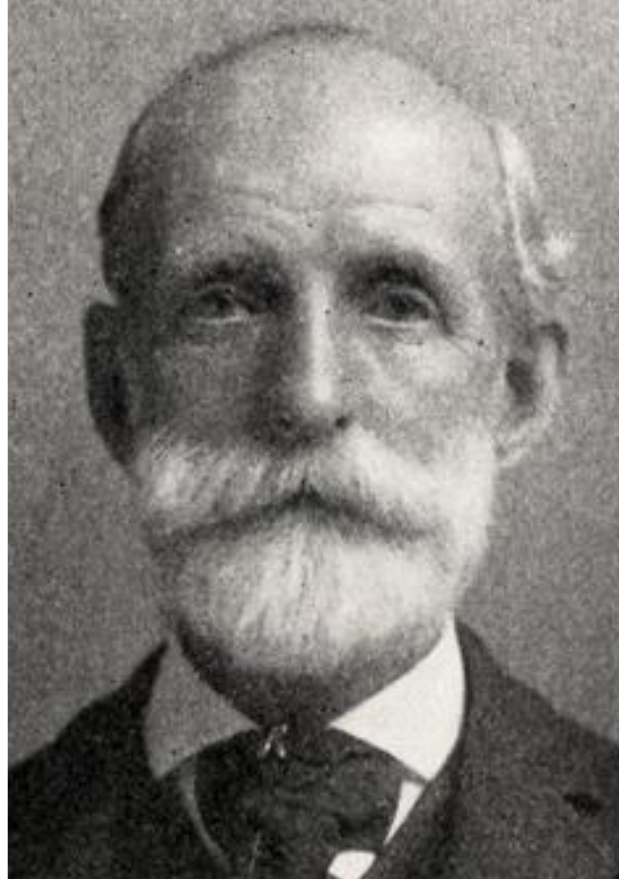
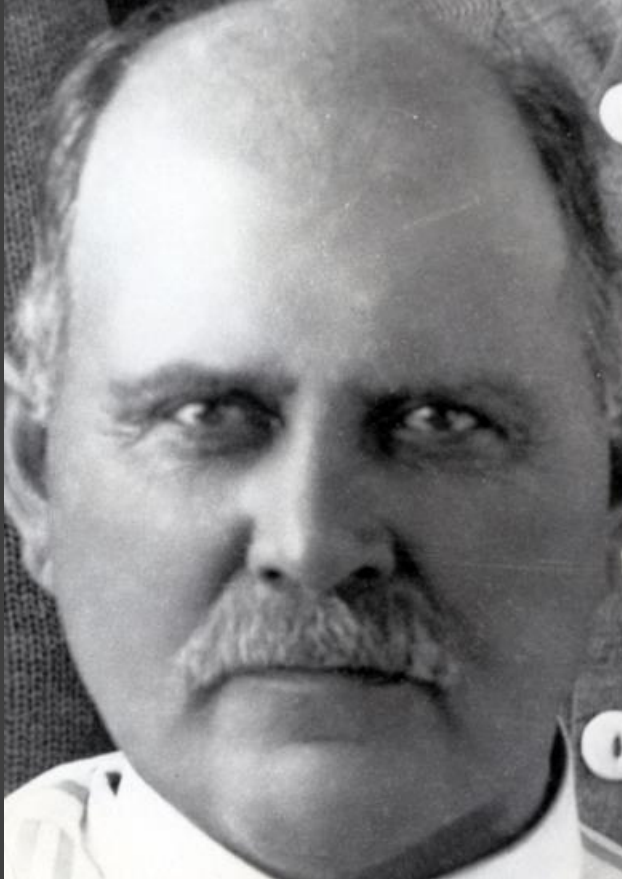
In 2021, Kyle Troup almost made a half-million dollars by bowling on the PBA Tour. Throughout the decades of the PBA, it has had it's ups and downs. In 2000, Chris Peters, Rob Glaser and Mike Slade bought the PBA for the equivalent of a minor league baseball team. In 1962, Eddie Elias made a deal with ABC TV to have bowling on national television in the same time slot for 35 years.

During this time slot on ABC, Chris Schenkel would be known as the voice of Pro-Bowlers Tour.

In the early years of the PBA, a bowler would have to get two letters of reference from current members of the PBA to be able to join. They would have to average 200 in a league to be eligible.

In 1975, the PBA founded its own Hall of Fame. The first members of the Hall of Fame were Don Carter, Dick Weber and Carmen Salvino.

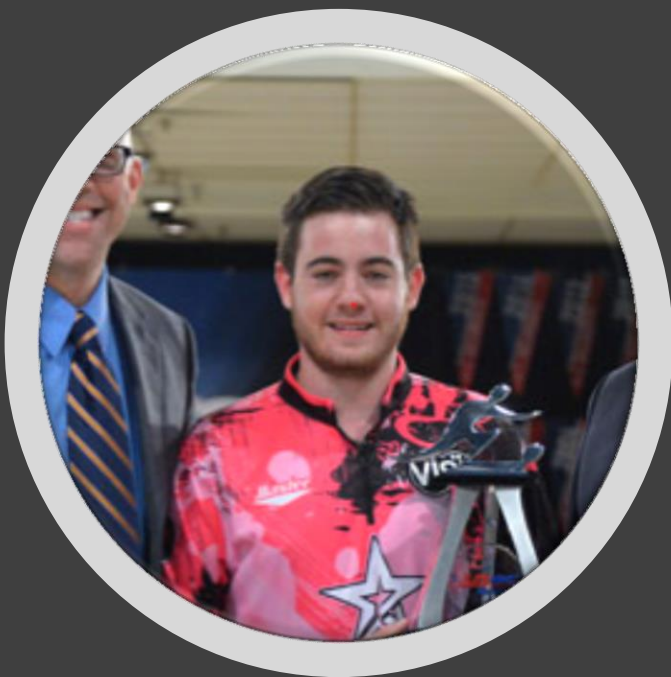




# Forefathers of Bowling

Left to Right: Dave Luby -Founder of Bowlers Journal, Joseph Thum one of the founders of the American Bowling Congress, Thomas Curtis American Bowling Congress first president known as the “father of bowling” and Frank K. Baker-ABC Executive Director and former USBC Masters trophy namesake.





## Greatest Bowling Moments

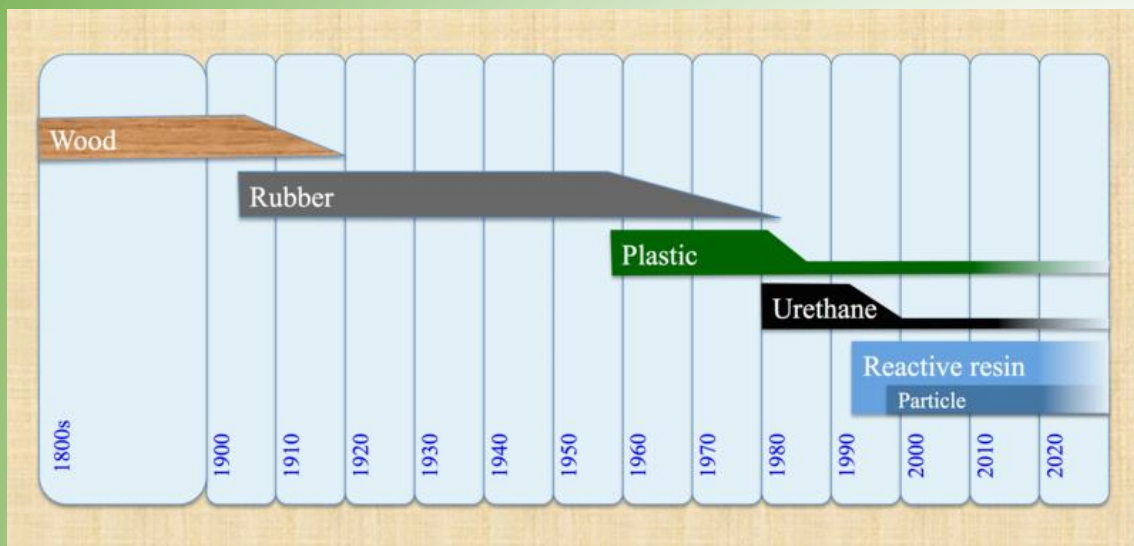




# Automatic Pin Setter Machine

# Automatic Scoring



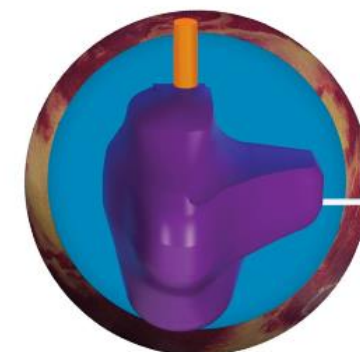


Over the history of the sport of bowling, the bowling ball has evolved in a number of ways. Back in the early 20<sup>th</sup> Century, bowlers would add a block of wood inside their ball to make the ball hook more. By the 1960's and 70's, bowling manufacturers would advance the bowling ball. This enhanced the bowlers scores drastically. In the 90's, bowling balls become high tech as they came out with resin reactive and different core shapes and densities in the bowling ball.

- **Symmetric:** A symmetrical core is the same on either side of an axis.
- **Asymmetric:** An asymmetrical core is not the same on either side of an axis and has a greater distribution of weight in one spot over another.



Symmetric



Asymmetric

# Instructional Bowling

In the early stages of teaching a new bowler, it is best to use a text-book style approach in learning how to throw a ball. In today's game, bowlers want to generate more power. Francoise Lavoie might be the text-book style of today. However, bowlers like Jason Belmonte and Jakob Buttruff have their own way of getting to the foul line. Belmonte generates more revs and more power on the ball. Jakob Buttruff is not a traditional player on the approach. With one career major and nine PBA Regionals in one season tells a bowling coach there are a multitude of ways to throw a bowling ball. There are also a variety of ways to coach a bowler on how to bowl.





# Bowling Tournaments

Bowling Tournaments are a chance for bowlers to compete against each other from late February to the early part of July. Each USBC member can enter the USBC Open championship. This gives amateur bowlers and professional bowlers to compete at the highest level. If a bowler wins singles, doubles, team all events and all events, the bowler will be recognized with an Eagle next to their name signifying that they won a national tournament. There are other tournaments such as PBA Regional, City and State Tournaments. The PBA Regional Program offers a good bowler to compete on a weekend basis. There are other types of tournaments that are called sweeper. These are the one-day tournaments with two-ten games in which bowlers compete in one day. There are also tournaments whereby the bowlers try to score high enough to make the next round.





## Five Majors Tournaments

In 1960, Don Carter won the inaugural PBA National Championship currently known as the PBA World Championship. Two years later, Joe Joseph won the inaugural Tournament of Champions. This tournament would only allow PBA champions to compete. In 1971, the BPAA All-Star would become the U.S. Open. Twenty-eight years later, the PBA announced that the bowlers who won the All-Star or the Masters would be credited a PBA Title. These five Major tournaments have demanding lane conditions and bowlers have a hard time scoring. Pro-bowlers would like to win at least one Major during their tenure as a pro.



**USBC Masters**



**PBA World  
Championship**



**Tournament of Champions**



**PBA Players  
Championship**



**US Open**

# The Perfect Game-300

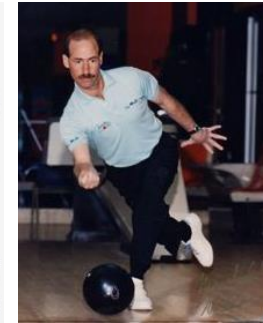
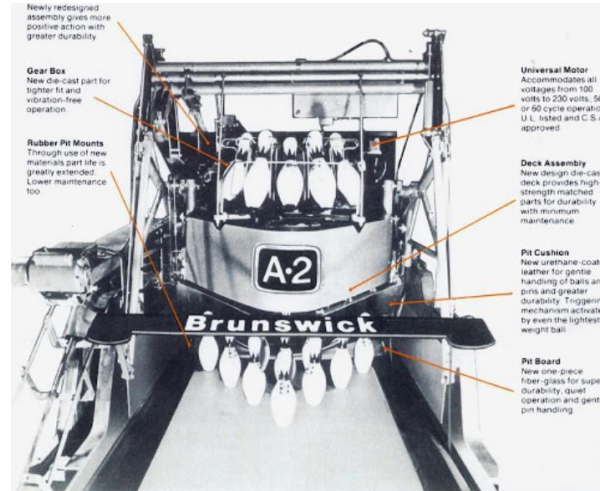
To achieve perfection in the sport of bowling, a bowler has to do a couple of things. One is to take advantage of breaks such as Brooklyns and bucket crumblers. They also need to be lined up to the pocket: right-handed 1-3, left-handed 1-2 pocket. To obtain a 300 game, they must throw 12 consecutive strikes in a single game of bowling. Parker Bohn III has the most 300 games on the PBA Tour. Andy Neur has the most 300 games in USBC history. There have been three players that have thrown two perfect games on national television - Sean Rash, Francois Lavoie and Jason Belmonte. These three players have obtained perfection not once but twice. A bowler that throws a 300 game receives a ring with his or her birthstone.





# 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 19<sup>th</sup> 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

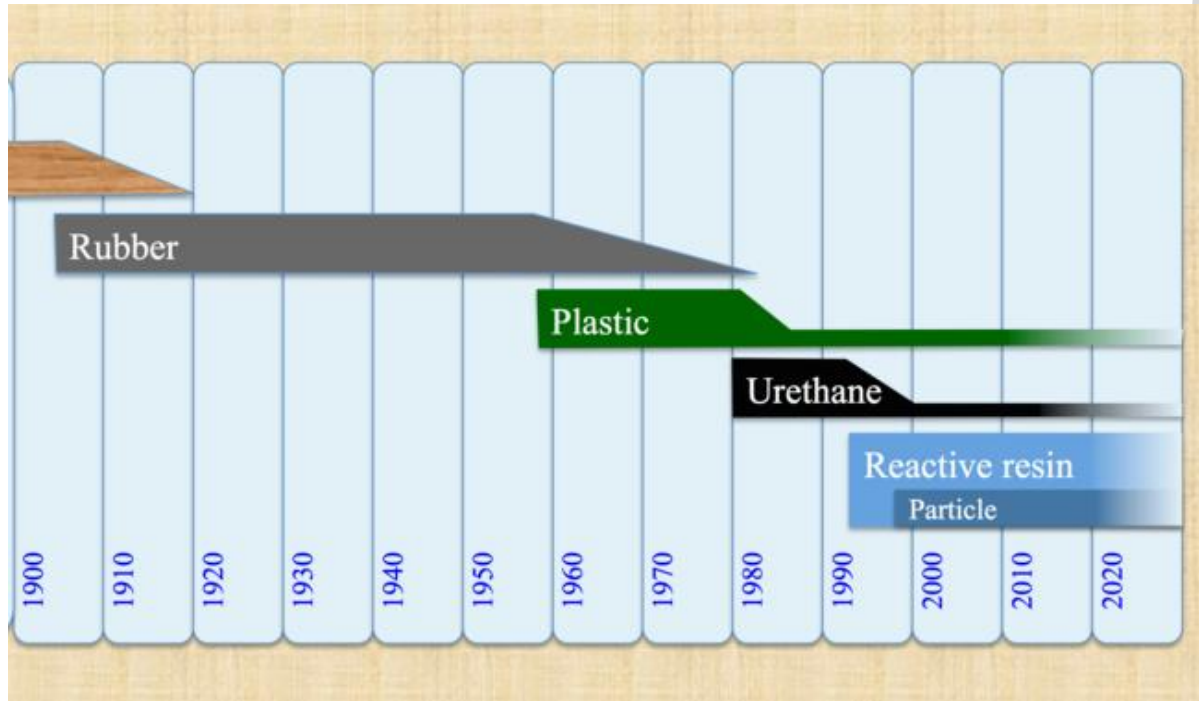
In the finals of the 2004 U.S. Open, a bowler from Finland named Osku Palermaa introduced a new type of power game with a two-handed style. Five years later, a bowler from the land down under named Jason Belmonte was named PBA Rookie of the Year with his exceptional two-handed bowling. The style would 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 is a replica of what bowlers likely bowled with in the early 20<sup>th</sup> 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

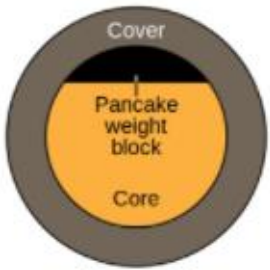
- Solid vs Pearl. A solid ball is usually going to use up energy earlier meaning it will bring the break point closer to the bowler. Whereas a Pearl ball has an additive in the coverstock so the ball can retain energy and go through the pins and give a reliable strike. In the back end of the lane, the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



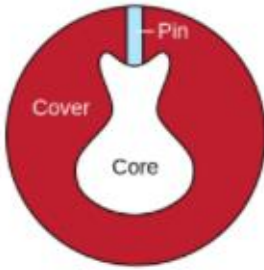
# Weight Blocks

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.

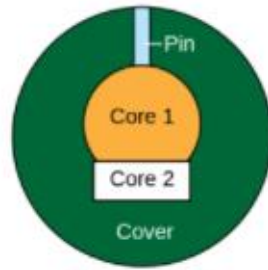
A symmetrical weight block would be like a baseball where it is equal & balanced on all sides. The Ceramic core is a secondary core inside the weight block. An asymmetrical core is like a coffee mug where it is unequal in dimensions and the weight is unbalanced.



Three-piece ball



Two-piece ball



Two-piece ball modified



Symmetric



Ceramic Core



Asymmetric



# 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 21<sup>st</sup> 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 absorbant 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

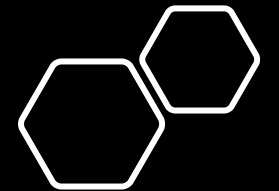


Brake Heel



## 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.



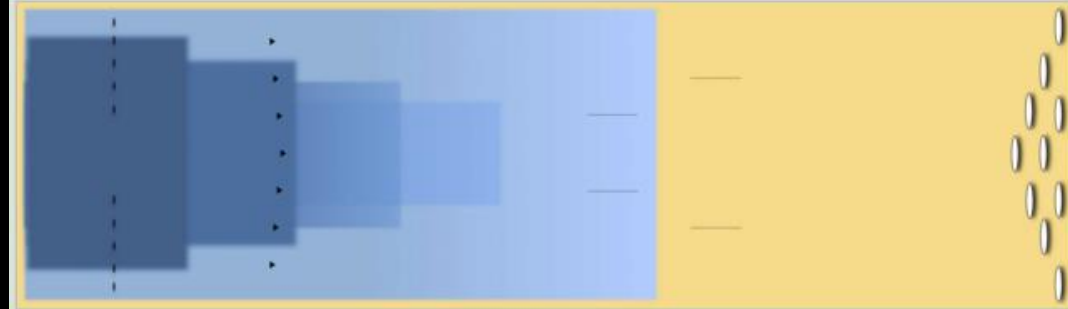


# Lane Oil

- 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.



Typical House Shot (THS)



Sport Pattern



CURRENT



FIRE

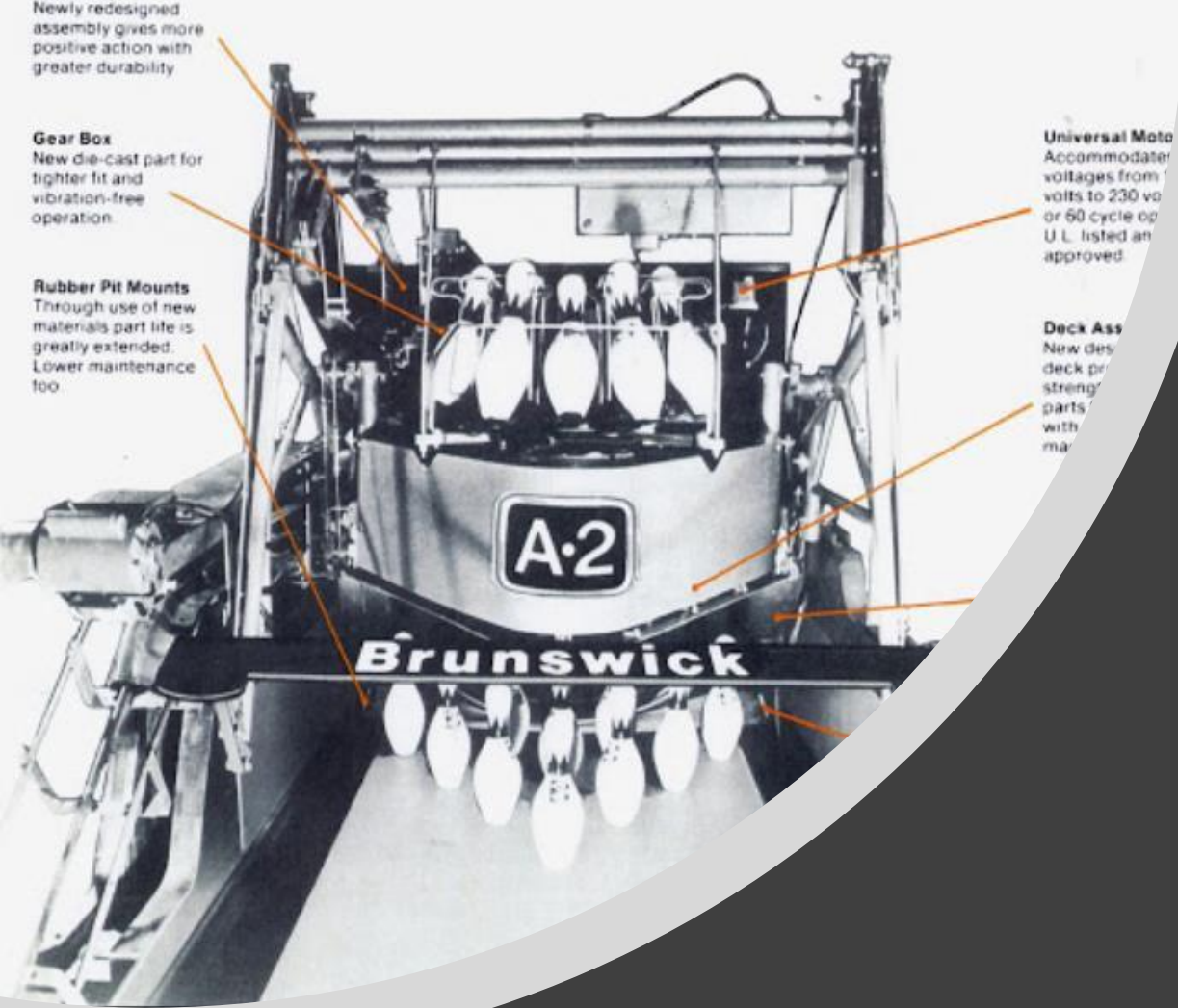


ICE

# 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.

LANE 4 > ATLANTIS / DEV / RECORDED 3-10

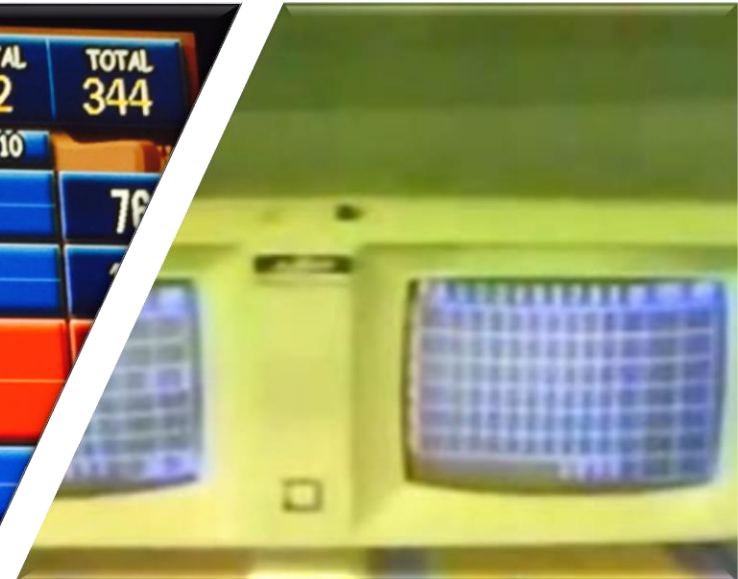
ROWS	BREAKPOINT BOARD	ENTRY ANGLE	LAUNCH SPEED	RPM	HOOK BOARDS
18.0	7.4	6.4	16.9	346	10.1
16.1	4.5	7.3	16.9	346	7.9
16.2	2.1	6.6	16.7	360	7.1
15.4	1.0	5.6	16.7	333	6.4

TABLE VIEW DEEP PRACTICE 3D VIEW CLEAR SCREEN RECORD & SAVE YOUR SESSION



2		remaining:		0		C. TOTAL		TOTAL			
		HDP				702		344			
2	3	4	5	6	7	8	9	10			
7	-	X	9	-	4	2	9	-	4	5	
7	24	43	52	58	67	76				76	
4	/	X	8	1	X	X	5	/	9	/	
20	39	48	73	93	112	122					
X	9	-	8	1	9	-	9	-	6	2	6
Mph	19	28	37	46	55	63	69				
5	3	6	/	9	/	6	/	7	1	6	3
9.1 Mph	8	27	43	60	68	77					

FOR \$1 GAMES AND SHO



# **EVOLUTION OF THE BOWLING BALL**

**IN THIS SEMINAR BOWLERS, COACHES AND PRO-SHOP OPERATORS  
WILL BE INFORMED ON THE EVOLUTION OF THE BOWLING BALL**



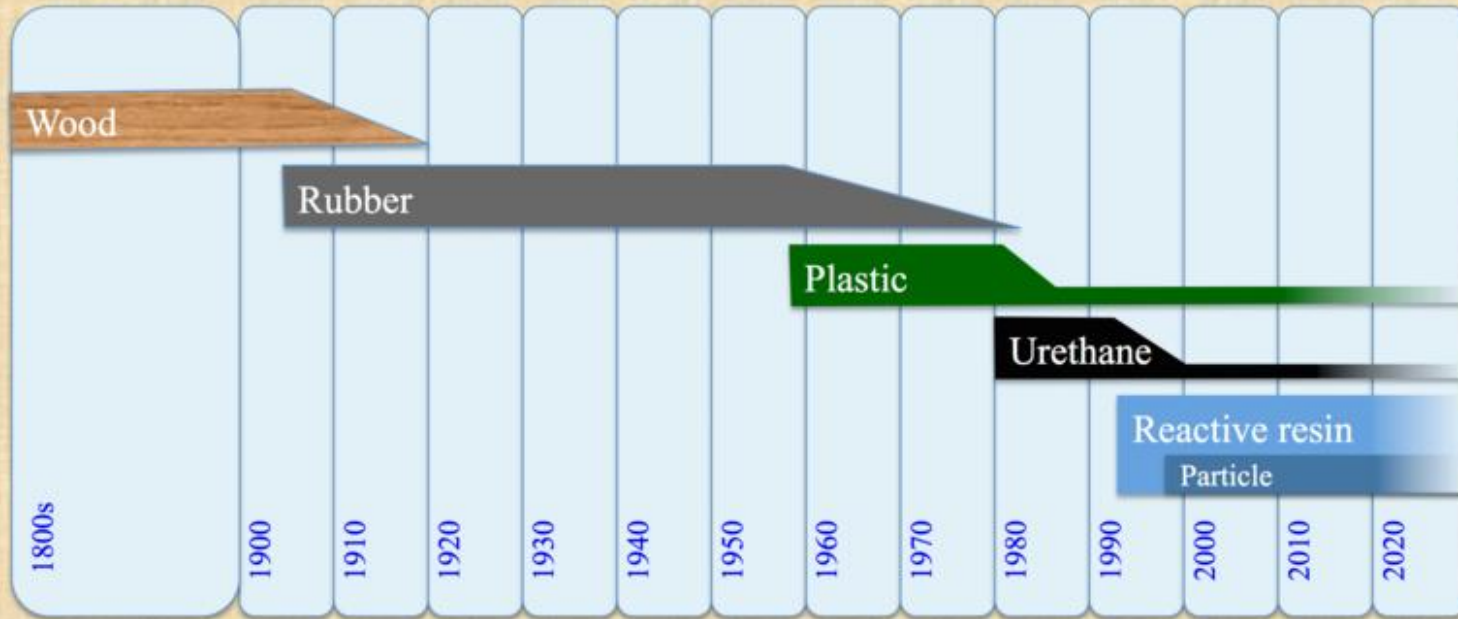


**THE BOWLING BALL HAS EVOLVED GREATLY IN THE LAST 30 YEARS. TODAY THERE IS A NEW BALL COMING OUT EVERY MONTH OR EVEN EVERY WEEK. BOWLERS MUST KNOW THEIR GAME TO GET THEIR MONEY'S WORTH OUT OF A BALL. THEREFORE, IT IS VERY IMPORTANT TO KNOW A GOOD PRO-SHOP OPERATOR THAT KNOWS THE BOWLER'S GAME. FIFTY YEARS AGO, BOWLERS HAD ONLY ONE OR TWO BALLS IN THEIR BAG. NOW TOURNAMENT BOWLERS WOULD HAVE A DOZEN OR TWO DOZEN BALLS. THIS SEMINAR DIVES INTO THE DIFFERENT TYPES OF BOWLING BALLS THAT ARE ON THE MARKET TODAY.**





# Cover-stock Evolution over the Decades



The cover-stock of a bowling ball is a key element to a bowler's game. This is the surface that is going to be in contact with the lane. Pro-Bowlers know when they need to use surface to get their ball to read the lanes. The cover-stock is the tire of the bowling ball. It can dictate how a bowler is performing. If they have the wrong surface the scores will plummet. However, if they have the right surface their scores will go up.

# ABRALON PADS



**A bowler can manipulate the ball by putting surface to the ball. These Abralon Pads are used to sand or polish the coverstock. The more abrasive pads have the lower number. A 360 pad could be used on a fresh oil lane. This will shorten the distance to the breakpoint. A 3000 pad will polish the ball and delay the breakpoint.**

# SURFACE MAINTENANCE

**BOWLERS, PRO-SHOP OPERATORS AND COACHES NEED TO CREATE A GAME PLAN ON HOW THE BOWLER WANTS TO PERFORM IN LEAGUE OR TOURNAMENT PLAY. IN ORDER TO ACCOMPLISH THIS FEAT, ALL THREE PARTIES WOULD DECIDE ON WHAT BOWLING BALL SURFACES THEY NEED TO COMPETE IN LEAGUE OR TOURNAMENT PLAY. THE SURFACE OF THE BOWLING BALL IS THE MOST IMPORTANT THING SINCE THE BALL IS GOING TO BE TOUCHING THE SURFACE OF THE LANE. WHEN JOE BOWLER HAS A COACH AND A PRO-SHOP OPERATOR THEY MUST BE ON THE SAME PAGE.**



At Left:  
Example of a  
sanded  
bowling ball.



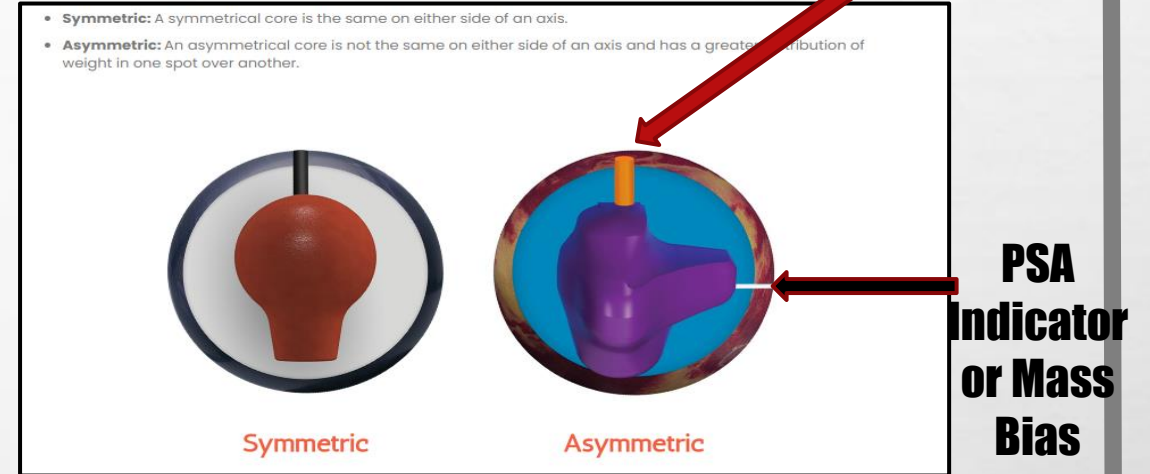
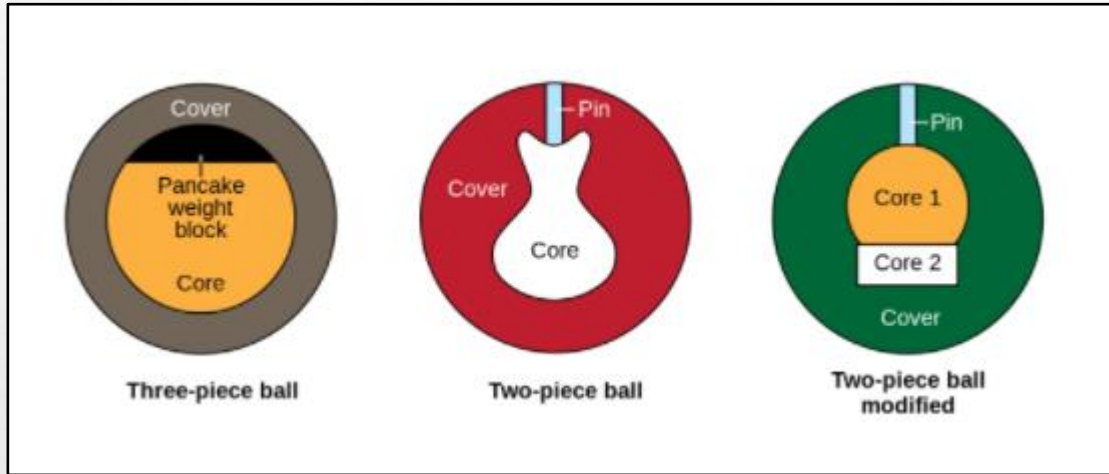
At Left:  
Example of a  
matte  
bowling ball.



At Left:  
Example of a  
polished  
bowling ball.



# Weight Blocks

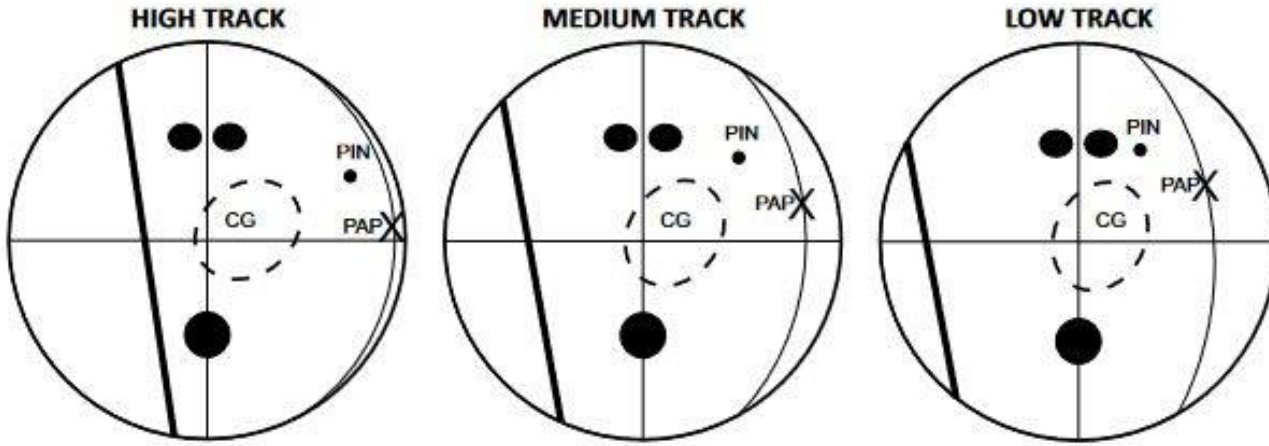


Over the years in the sport of bowling, the bowling industry has designed the engine of the ball known as the weight block. This gives the pro-shop operator another tool for the bowler's arsenal. In the 1980's the bowling ball manufacturers started to create different weight blocks for the balls. By the 1990's there were all kinds of symmetrical & asymmetrical weight blocks in addition to messing with the cover stock. A symmetrical weight block would be like a baseball where it is equal & balanced on all sides. An asymmetrical core is like a coffee mug where it is unequal in dimensions and the weight is unbalanced. Pro-Shop Operators, bowlers, and coaches must communicate to get the best result out of the ball that they can.



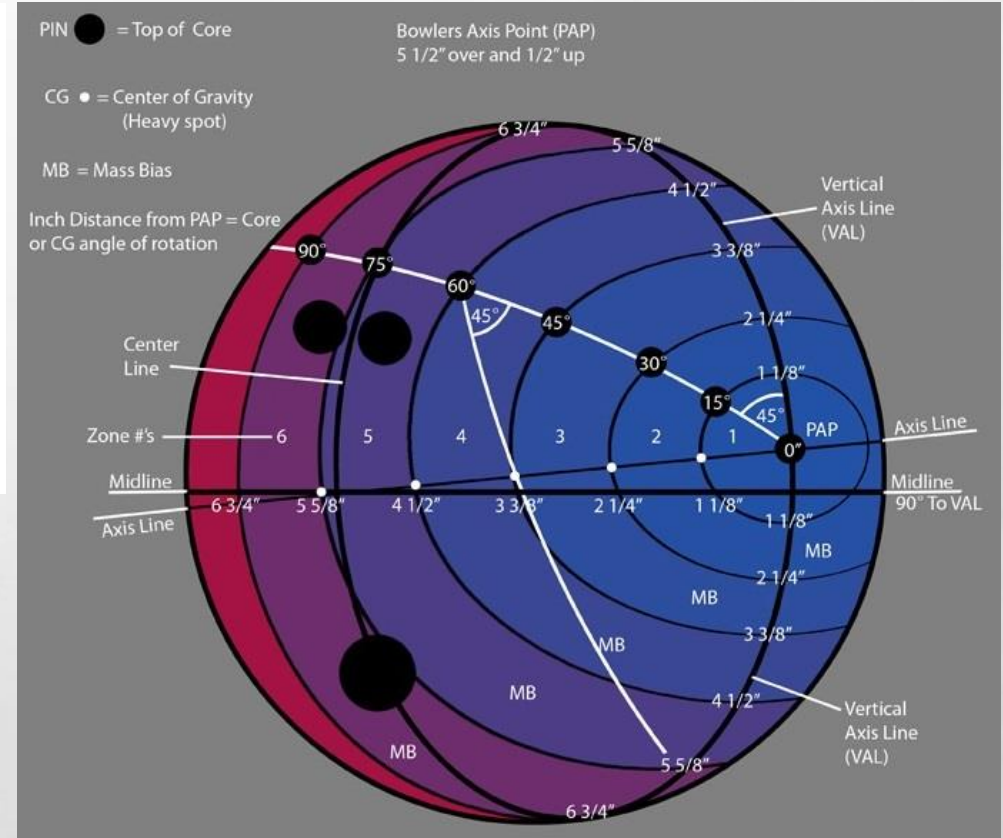
# DRILLING LAYOUTS

## Symmetrical drilling layout



**Above are symmetric layouts for a High, Medium, and Low track bowler. A Pro-Shop Operator needs to observe a bowler's style in order to determine the best drilling layout. A layout is specific to a bowler and the bowling ball.**

## Asymmetrical drilling layout



# MAINTENANCE OF A BALL

**Cleaning a bowling ball is important because it accumulates old oil and debris. A general rule of thumb is that a ball should be cleaned after 20 games. Various cleaning solutions are picture to the right and cleaning tools are at the left.**





# Greatest Moments in Bowling History







1895 - The ABC was founded, currently known as the USBC.

- Prior to 1895 bowlers did not have standard bowling practices across the US. Bowlers might have bowled in New York on a 60-foot lane. However, when they arrived in Chicago the lanes were only 30 feet long. In 1895 bowlers formed the American Bowling Congress, currently known as the United States Bowling Congress. The American Bowling Congress produced uniform standards for bowling ball size, lane length, and tournament rules.
- The first national tournament for the American Bowling Congress occurred January 8-11, 1901, in Chicago, Illinois with competition between teams, doubles, and singles on six lanes.
- Frank Brill was named the first Individual Champion. The two-man team championship was won by J. Voorhies and C.K. Starr. The five-man team championship was won by the Standard team of Chicago.

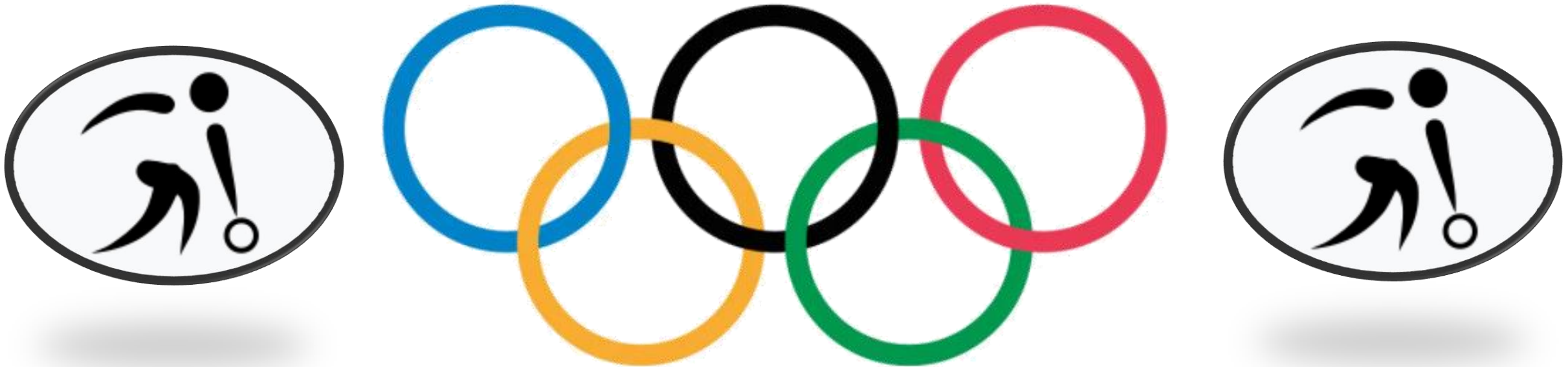




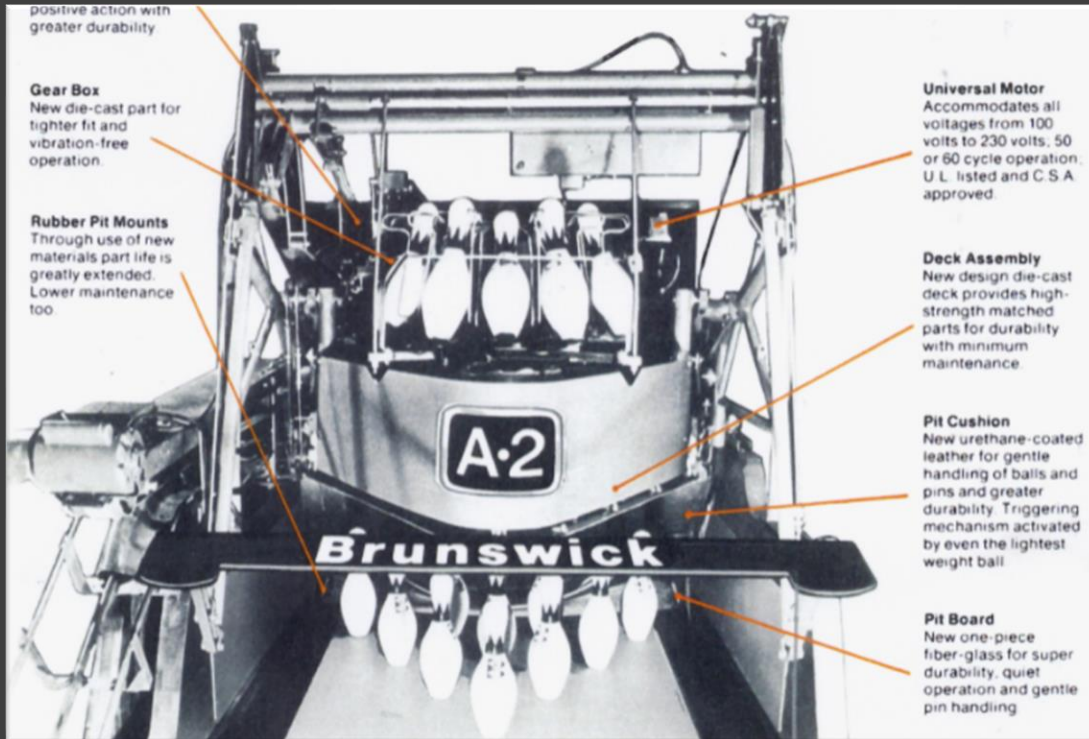


# **1932 Bowling was an exhibition sport in the Olympics.**

In 1932 Bowling was on world stage at the 1932 Summer Olympics. It was an exhibition sport. Today decades later bowling is still recognized as an Olympic sport. There have been modifications to the scoring system for the non-bowling fans to understand who is the lead after every frame. Hopefully, the Olympic committee will recognize bowling as an Olympic Sport. A multitude of bowling experts think bowling needs to be recognized as an Olympic sport to finally get respect as an equal to other sports that are challenging to athletes.



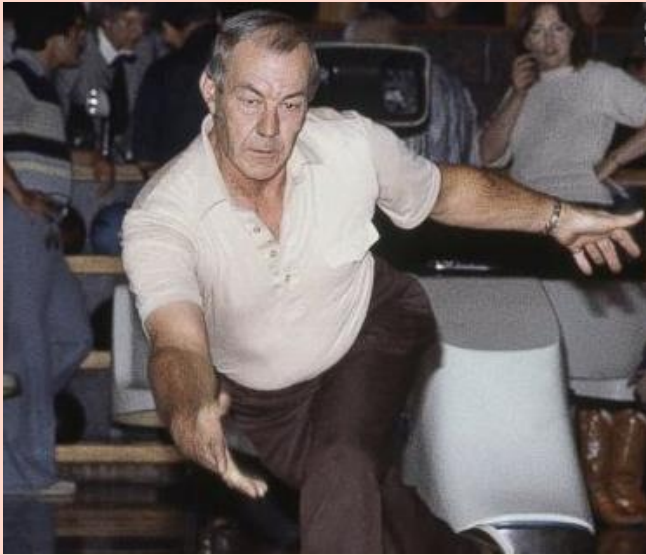




# Automatic Pin Setter

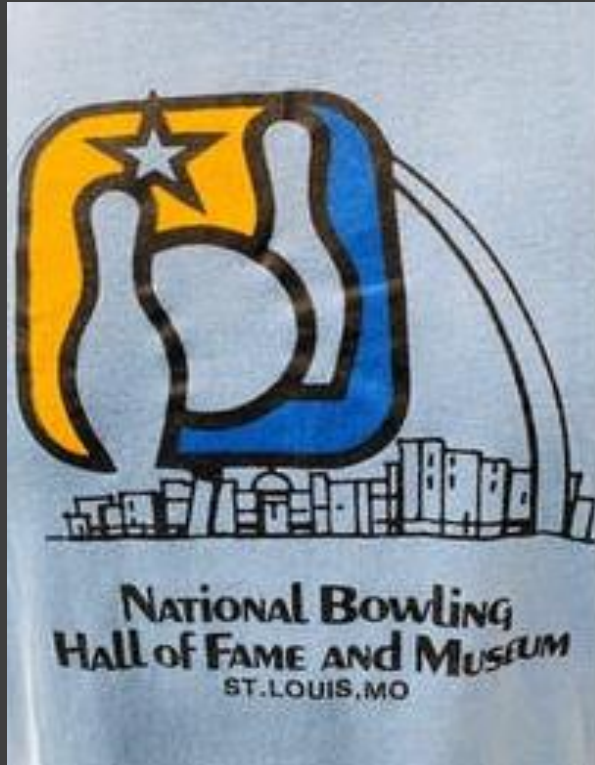
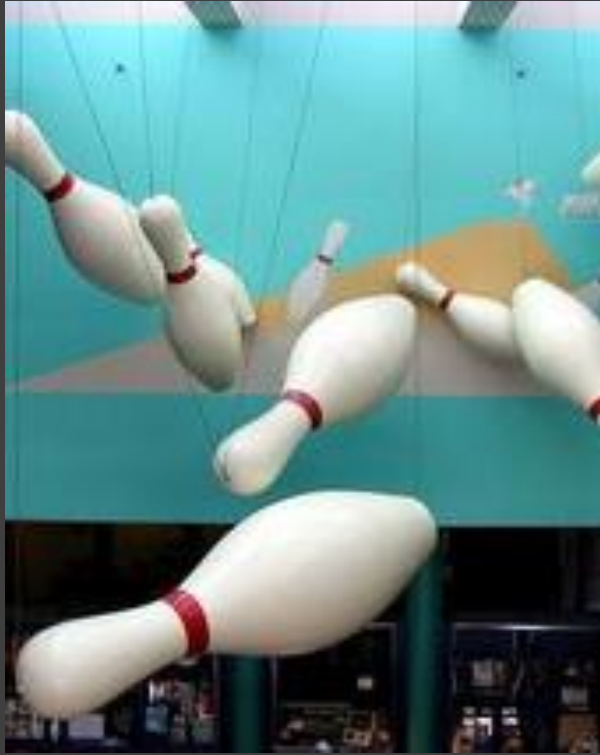
In 1936 AMF designed the first mechanical pin setter. This would revolutionize the sport of bowling. Proprietors would not have to hire pin boys to setup the pins at the end of the lanes. Automatic pinsetter machines would start rolling into bowling centers in the 1950's further popularizing the sport by creating a more efficient pin setting process and ball return. The introduction of automatic scoring in the 1970's opened the sport to all bowlers of any skill level making it a true American past time from the average weekend bowlers to the serious tournament bowler.

# 1982 Glenn Allison shoots the first 900 series.



Glen Allison is the first one to shoot a 900 series back in 1982. When the ABC first tested the lanes, they said that the lanes were not legal to their standards at the time in 1982 and therefore would not sanction his 900 score into the record books. There were no 900's until almost 15 years later. After receiving multiple petitions, the USBC said that they could not recognize his 900 score officially, but stated they had the "highest respect and admiration" for Glen's achievement. They felt the rules from 1982 could not be changed as it could potentially open up multiple lawsuits and disputes over the scores that were disregarded over the years. They felt it was best to "close this chapter and move forward." Glen's 900 score is known as the True 900 due to the conditions of the lanes and balls of that era. He received a 900 ring from his bowling center.





# 1984 The Bowling Hall of Fame was opened.

In 1984 the bowling industry decided there needed to be a place to showcase the bowling history and the greatest bowlers of all times. Bowlers like Dick Weber, Earl Anthony, and Don Carter were the legends of the game. There was a chance for bowlers and bowling fans to bowl on the old lanes and on the modern lanes. Just like the Bowler's Journal is the oldest publication in the bowling industry, the Bowling Hall of Fame is the third oldest sports museum created in 1931. This Bowling Hall of Fame has a multitude of awards and plaques recognizing the highest achievement in modern bowling. Back then the ABC and the WIBC were two entities before merging in 2005 into the USBC.



# 1995 The National Bowling Stadium opened.

In 1995 the National Bowling Stadium would open by hosting its first event, the USBC Open Championships. The USBC ruled that every three years the Championship would be contested at the National Bowling Stadium. It was featured in a major Hollywood motion picture *KingPin* and included some of the top bowlers from the Brunswick pro staff such Mark Roth, Parker Bohn III and Randy Pedersen.







## Ex-Microsoft Executives purchase the PBA

In 2000, Rob Glaser, Mike Slade, and Chris Peters purchased the PBA for \$5 million. The story was featured on the front page of the Wall Street Journal. Chris retired from Microsoft and wanted to pursue his bowling passion instead. He found Rob and Mike who were willing to take on the challenge of running the PBA.





## 2010 Kelly Kulick wins at the Tournament of Champions

At the 2010 Tournament of Champions, Kelly Kulick became the first woman to win a PBA Title and a Major Title at the same tournament. She qualified second for the step-ladder Championship round. She defeated Mika Koivuniemi in a close match 227-223, before moving on to face Chris Barnes. She easily defeated Chris 265-195 in the Championship match. Four years earlier, she was the first woman to become exempt on the PBA Tour.



L to R Tom Clark, Anthony Simonsen, Chad Murphy

Anthony Simonsen becomes the youngest to win a Major.

At the 2016 USBC Masters the youngest bowler to win a PBA Title would claim the championship by defeating Dan MacLelland 245 to 207.



# Greatest Moments in Bowling History

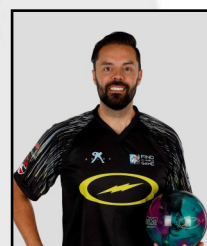
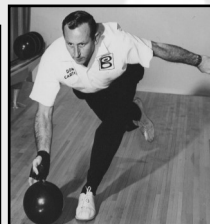
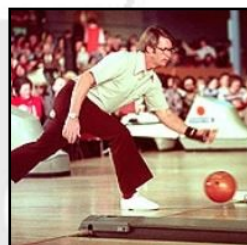
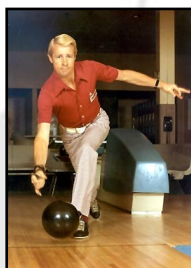
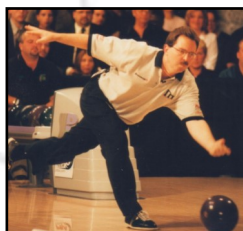
**Bowlology Academy Presents Bowling Tournaments -**  
**A detailed description of how a bowling tournament operates from**  
**the perspective of the bowlers to the tournament director.**

by

**Josh Hyde B.L.P Bowlologist**



**BOWLOLOGY**





**Sweeper Tournament** Entrants complete a specific of games During a single day and the highest score wins the tournament. Bowlers will generally move to a different pair of lanes after each game. There can be additional cashing rules and multiple entries are allowed over different squads.

**City Tournament** These are Single, Doubles, and Team events usually with a handicap higher average bowlers are bowling actual. Each set is three games with an option to score in the All-Events tournament. Bowlers are usually able to bowl multiple team squads, however their first team event would count towards the All-Events total, or they must specify which score to include in the All-Events. This is operated by the local USBC association.

**City Scratch Tournament** This tournament is for the individual who is in a specific geographic association with an average above 190. The bowler must complete a minimum of 21 games to qualify for the event. These tournaments are mainly called the Masters of the city. The tournament is managed by the association. If a player wins the tournament, he might earn a State Masters invitation.

**State Tournament** This tournament is for the individual who is in a specific State association with an average above 190. The tournament is managed by the association. If a layer wins the tournament. It is 3 games apiece with a handicap.

**State Scratch Tournament** This tournament is for the scratch bowler with a 190 average. In these tournaments the winner might receive an USBC Masters tournament. Bowlers from other states if they win these will not be credited with the victory for a state tournament. Bowlers from that state will be credited with a state title.

**Scratch Tournament**- This tournament is open for any bowler who has a 182 to 50 average. Some pro-bowlers might show up to earn a little extra pay with side pots and brackets and to test their skills under tournament conditions.

**Peterson Classic**- If there is a U.S Open. A player can only bring two bowling balls and they have ten pin racks on purpose so that the bowlers have a hard time scoring. They also have racks can hit the pocket each time and leave an eight ten split for a right hander and seven ten splits. Bowlers are definitely scratching their heads. This tournament is from late April to September 5th. Certain pairs have team events, doubles, and trios.

**USBC Open Championship** at the USBC Open Championship Bowlers have a chance at winning four eagles with a national title at this tournament. There are well over 20,000 teams which is a five-man team. Bowlers from around the country compete at this tournament. Four eagles represent an automatic USBC Hall of Fame member. This is the criteria for the amateur bowler. These teams can have PBA Tour members bowling for doubles only one PBA member can bowl. Two PBA members can bowl. There is also a classified division for the lower average bowler.



**PBA Non-Champions** This tournament is for PBA members who have not won a PBA Tournament on any level. If a bowler has won a PBA Tournament as a non-member. He is still eligible for this tournament. Or if there is a bowler that has dropped their PBA card. They are too eligible to bowl in this tournament. Once a PBA member won one of these tournaments, they are no longer eligible to bowl in this type of tournament. These tournaments are typically a reduced entry fee.

**One Day PBA Regional These tournaments** are one day and are less expensive than regular PBA regional tournament. Players still get credit for winning with a championship banner. They generally one round of qualifying and single elimination match play. Any PBA member can bowl.

**PBA Regional Tournament** PBA Regional Tournaments is a chance to test their skills some of the best bowlers on the weekends. Bowlers that do not think they compete among the best. Have a chance to get their feet wet in a PBA Regional program.

**PBA Tour Title-** These tournaments are where the best bowlers perform. They compete in qualifying, match play and a championship round. If a bowler wins these tournaments, they can bowl the Tournaments of Champions. Walter Ray Williams Jr is the leading titlist with 47 titles. Great names that have won are Pete Weber, Norm Duke, and Earl Anthony.

**PBA Players Championship** This tournament started in 1983. It was originally called the Touring Players Championship. Steve Cook won the inaugural championship. Players would have to bowl one half of the PBA Tour Schedule to be eligible for this tournament. The last ten years. They have opened it up to the entire PBA membership. Steve Hoskins, Dave Ferrao, Dennis Horan Jr have two PBA Player Championship. Jason Belmonte is the first and only player so far to win three PBA Players Championships.

**USBC Masters** This tournament is open to bowlers with a 190 average. Bowlers compete in three rounds of qualifying that consist of five games each. Once fifteen games are completed. The top one fourth cash. The top 63 plus the defending champion make match play. Bowler's bowl three games in a match. Bowlers must lose twice to be eliminated. This is tournament has Jason Belmonte winning four tournaments also Mike Aulby owned three master titles. Tournament started off as an invitational tournament. If a bowler loses in the first round of match play.

**PBA World Championship** This is only open to the PBA Membership. In recent years it has been part of the World Series of Bowling. Earl Anthony three peated this tournament twice. The trophy is named after him. Bowlers complete a total of 56 games consisting of qualifying and match play. In 1982 Earl Anthony became the first bowler to earn a million dollars in career earnings. Other players that have multiple world championships and Norm Duke., Jason Belmonte and Pete Weber. Don Carter won the inaugural PBA National championship.

**Tournament of Champions** This is open to the PBA members who have won on the PBA Tour. In regionals and/or the PBA50 Tour. It started out as PBA Tour Tournaments only. Bowlers won this event could bowl in this tournament for life. Jason Couch, Mike Durbin and Jason Belmonte have won this tournament three times. The greatest moment in PBA History was when Don Johnson left the ten-pin on the 12th ball in 1970 Tournament of Champions.

**U.S Open** This is a limited field of 108 players. Pete Weber has won a total of five U.S Opens. Don Carter and Dick Weber have each won four when they won it was called the BPAA All-Star. The entire field bowls twenty-four games of qualifying. Then they cut to the top 36 bowlers in eight more games of qualifying. Those 24 players bowled 24 games of round robin match play. Originally the BPAA All-Star tournament was 100 games in a week.

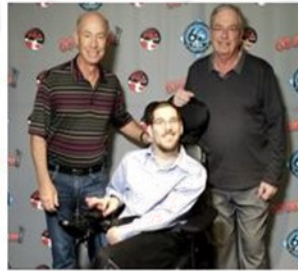
# **Tournament Scoring System and Tournament Director Responsibilities**

**Tournament Scoring System-** In professional bowling, there is a par of 200. In golf, it is good to be under par and saving strokes. However, in bowling it is better to be over par. When bowling fans go to a PBA Tournament and they see a +/- beside a bowler's name, they can understand if a bowler is having a hard time on the lanes or if he is striking. If a bowler shoots a game of 259, his score is +59. Unfortunately, if he shoots 179, his score would be -21. The minus score is usually displayed in red, and the positive score is in black. The pros will have a cumulative total after their total qualifying games are over. The PBA tournament officials will be able to tell the bowlers and bowling fans what the cut score will be.

**Tournament Director Prize Funds/Entry Fees-** The tournament director decides what type of format. The number of games that are played. They discuss the lineage that the proprietor wants per game. They also discuss the pattern that the tournament will be using. The date the time. The tournament director also determines what expense fee he or she will charge. They will also need to purchase a tournament software that runs brackets and side pots. He/She will also determine the number of brackets a bowler can enter, the tournament prize fund and will make a flyer. How many lanes after each game a bowler does a bowler skip? A tournament director should be there approximately two hours before the first ball is thrown for competition. Decide on a one lane courtesy or a two lane courtesy. If a lane breaks down decide on how many practice balls the bowlers receive on the new pair of lanes. Decide on the dress code for the tournament. One game roll-off or two frame-off to break a tie. One ball or two frame off in the championship round. The tournament director also purchases a laptop along with a laser printer and tournament software that runs the brackets side pots and standings. A tournament director might also talk with a local sponsor about putting in more prize money for the bowlers so that the tournament can receive more funds to pay out prizes. Also tournament directors decide on the rules for the tournaments itself.



# Tournament Flyer



## *Josh Hyde Bowling Championship*



## Qualifications for the Josh Hyde Bowling Championship

PBA rules apply. Bowlers making the cut, that are seeded one, eight, sixteen, and twenty-four must weigh in their bowling balls. After 48 games, one, two, three and four must weigh in the balls that they used. Fifteen minutes prior to all qualifying round and match play rounds on the bowlers' starting pairs. Warmup will be allowed prior to competition forty-five minutes before match play. There will be re-oil and strip before every round of play.

The first qualifying round will be on the Earl Anthony Pattern. The second qualifying round will be on the Mark Roth Pattern. The third qualifying round will be on the Dick Weber Pattern.

All bowlers must have at least one PBA Tour title in the last decade. Major tournament winners of the past 20 years -USBC Masters, PBA World Championship, PBA Players Championship, PBA World Championship, Tournament of Champions, and the U.S. Open- are automatically in the tournament. This tournament will be limited to the first 100 bowlers. All bowlers will cash. Tournament Chairman is Josh Hyde, PBA Honorary Member.

## Josh Hyde Bowling Championship

To be eligible, players must be a PBA Tour Champion during the last decade. All players will cash. The format would be three 8-game blocks of qualifying, cut to the top 24 for round robin match play with 30 bonus pins for each match (15, if tied). After a total of 48 games, the top qualifier will receive a \$5,000 dollar bonus for leading the preliminary rounds of the tournament. The top four will go into a round robin format bowling four games with the scores reset to 0. The winner will take home the grand prize.

If the fourth-place bowler is close enough to the lead, he or she has one more game to win the tournament. The last game in the championship round will be the position round game. This is an invitational tournament



Josh Hyde Bowling Championship Tournament Roster

TOC past champions for the last 20 years	Jason Couch, Tommy Jones, Pete Weber, Jason Belmonte, Matt O'Grady, Michael Haugen, Jr. Chris Barnes, Kris Prather, Kelly Kulick, Jesper Svensson, Patrick Healey Jr.*, Steve Jaros*, Mika Koivuniemi*
U.S Open past champions for the past 20 years	Walter Ray Williams Jr. Norm Duke, Dom Barrett, Wes Malott, Robert Smith, Bill O'Neill, Francois Lavoie, Chris Via, Rhino Page, Ryan Cinemelli
Past 20-year PBA World Championship	Doug Kent, Parker Bohn III, Tom Smallwood, Gary Faulkner, Jr, EJ Tackett, Tom Baker, Tom Daugherty, Dom Barrett, Patrick Allen*, Osku Palermaa, Tom Smallwood
Past 20-year USBC Master Champions	Mike Fagan, John Nolen, Thomas Larsen, Andrew Anderson, Danny Wiseman, Bryon Smith, Anthony Simonsen, Sean Rash, Jakob Buttruff, Mike Scroggins, Tom Hess
Past 20-year PBA Players Championship	Kyle Troup, Graham Fach, Scott Norton
Past 10-year PBA Tour Champions	Brad Angelo, Jason Sterner, Liz Johnson, DJ Archer, Andres Gomez, Dick Allen, Chris Loschetter, Ronnie Russell, Marshal Kent, Amleto Monacelli*, Carsten Hansen, Connor Pickford, Cristian Azcona, Eugene McCune, Graham Fach, Josh Blanchard*, Kyle Sherman, Matt Ogle, Matt Sanders, Mike Wolfe, Mitch Beasley, Richie Teece, Sam Cooley, Scott Newell, Shawn Maldonado, Stuart Williams

\*\* PBA Players not currently on the PBA Tour.  
First 100 players who sign up are guaranteed a spot.



# Tournament Bowler Lane Migration & Sample Prize Fund

Joe Bowler draws lanes 13 & 14 to start his competition. After game 1, he would move to lanes 19 & 20 for game 2. For game 3, he would move lanes 1 & 2. The final game of his block would be on lanes 7 & 8. This is an example of if the tournament director decides skipping two pair after each game. The diagram above shows the 24 lane center and how a bowler would move pairs for a tournament.



This is a sample of a 1:4 Prize Fund which the tournament would calculate. The director would need to agree with bowling center on the price for lineage. It assumes a \$50 entry fee and \$10 for lineage. If there were 10 entries, only First and Second would receive the total prize fund because it is a 1:4 payout ratio. If there were 21 entries, First place would receive \$300.

# Entries	Entry Fee	Lineage	Total Prize Fund	1	2	3	4	5	6	7	8	9	10
10	\$50	\$10	\$400	250	150	0	0	0	0	0	0	0	0
11	\$50	\$10	\$440	250	190	0	0	0	0	0	0	0	0
12	\$50	\$10	\$480	250	130	100	0	0	0	0	0	0	0
13	\$50	\$10	\$520	250	150	120	0	0	0	0	0	0	0
14	\$50	\$10	\$560	250	160	150	0	0	0	0	0	0	0
15	\$50	\$10	\$600	275	175	150	0	0	0	0	0	0	0
16	\$50	\$10	\$640	250	165	125	100	0	0	0	0	0	0
17	\$50	\$10	\$680	275	175	130	100	0	0	0	0	0	0
18	\$50	\$10	\$720	275	175	140	130	0	0	0	0	0	0
19	\$50	\$10	\$760	275	180	155	150	0	0	0	0	0	0
20	\$50	\$10	\$800	275	180	145	100	100	0	0	0	0	0
21	\$50	\$10	\$840	300	185	150	105	100	0	0	0	0	0
22	\$50	\$10	\$880	300	185	160	135	100	0	0	0	0	0
23	\$50	\$10	\$920	300	200	175	145	100	0	0	0	0	0
24	\$50	\$10	\$960	300	180	145	120	115	100	0	0	0	0
25	\$50	\$10	\$1,000	300	185	160	135	120	100	0	0	0	0
26	\$50	\$10	\$1,040	300	190	165	150	135	100	0	0	0	0
27	\$50	\$10	\$1,080	300	205	180	160	135	100	0	0	0	0
28	\$50	\$10	\$1,120	300	185	160	140	125	110	100	0	0	0
29	\$50	\$10	\$1,160	300	200	170	145	130	115	100	0	0	0
30	\$50	\$10	\$1,200	300	205	180	155	135	125	100	0	0	0
31	\$50	\$10	\$1,240	300	220	185	160	145	130	100	0	0	0
32	\$50	\$10	\$1,280	300	200	170	150	130	120	110	100	0	0
33	\$50	\$10	\$1,320	300	210	180	155	135	125	115	100	0	0
34	\$50	\$10	\$1,360	300	220	190	160	140	130	120	100	0	0
35	\$50	\$10	\$1,400	300	230	200	165	145	135	125	100	0	0
36	\$50	\$10	\$1,440	300	210	180	160	140	125	115	110	100	0
37	\$50	\$10	\$1,480	300	220	185	165	145	130	120	115	100	0
38	\$50	\$10	\$1,520	300	230	190	170	150	135	125	120	100	0
39	\$50	\$10	\$1,560	300	240	195	175	155	140	130	125	100	0
40	\$50	\$10	\$1,600	300	215	185	165	145	135	125	120	110	100



# Tournament Sample Rules

A list of rules helps the tournament director run the event and manage bowler expectations. It can be an extensive list or a short list. This is a sample list of rules for a tournament and a director can choose which ones they want to use.

- It is a one lane courtesy tournament.
- This is a scratch tournament. All pins will be dropped after the first round of qualifying.
- A bowler must arrive at least 15 minutes prior to start of the first ball thrown for competition.
- Practice can be on various lanes before competition.
- This is USBC sanctioned tournament. Sanction cards are available if needed.
- There is no limit to bowling balls.
- All bowling balls must meet the USBC specifications. The tournament director has the right to inspect any ball used during competition.
- Bowlers are permitted two re-racks per game.
- Any additional re-racks must be decided by the tournament director.
- Higher seeded bowlers get a choice of lanes.
- In the Championship round, all bowlers will get two practice shots per lane.
- In the limited brackets, bowlers are only allowed to enter 20 brackets. In unlimited brackets, bowlers can enter as many as they desire.
- In order to be eligible for the Points System:
  - All bowlers must bowl at least two tournaments and enter one tournament or bowl three tournaments.
  - Pay the \$20 season membership fee.
  - If there is a tie for season champion, it will be result in a one game roll-off in order to determine the winner. Any other ties will be split.
- Any tie for the first round cut will result in a two frame roll-off. A tie in the step-ladder will result in a one ball roll-off with the higher seed choosing the lane and the order the players will bowl.
- A bowler can only alter the surface of the ball between rounds.
- The Tournament director has final authority on all other matters.

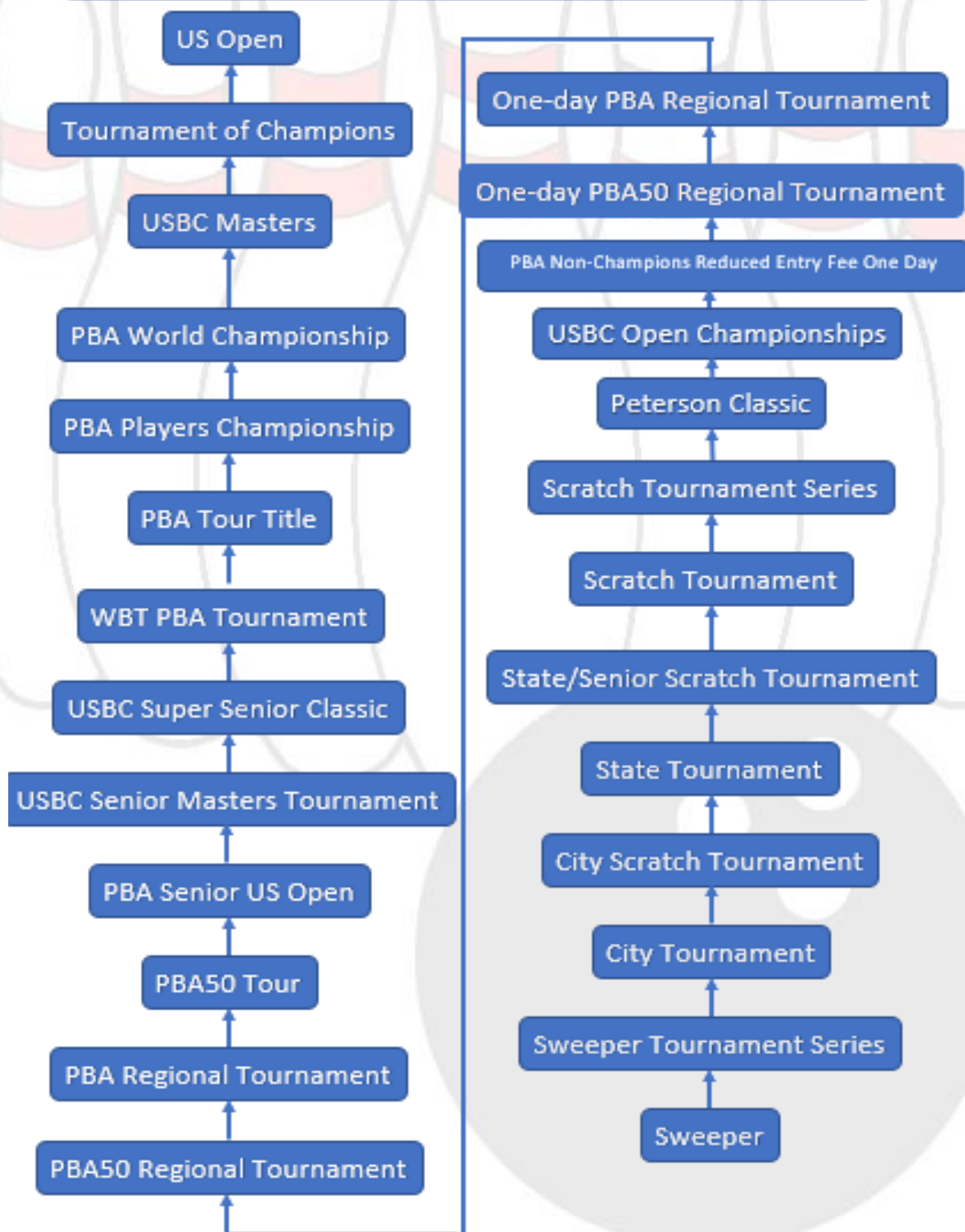
# Tournament Sample Points System

In order to grow a tournament, a tournament director has choices to make which will encourage more bowlers to join. One way is with a point system which runs for the entire season. This will entice bowlers to keep bowling at each tournament. A point system can be simple or have many creative ways for bowlers to earn more points. At the beginning, the director should experiment to discover what will draw in new bowlers.

<b>Points</b>	<b>Individual</b>	<b>Combined</b>	<b>Double</b>	<b>Combined</b>
If you bowl	10	10	20	20
If you make the Cut	10	20	20	40
If you Cash	5	25	10	50
If you make Match Play	5	30	10	60
If you Win	10	40	20	80

	<b>Bowler 1</b>	<b>Bowler 2</b>	<b>Bowler 3</b>	<b>Bowler 4</b>	<b>Bowler 5</b>	<b>Bowler 6</b>	<b>Bowler 7</b>	<b>Bowler 8</b>	<b>Bowler 9</b>	<b>Bowler 10</b>
September	10	20	40	10	25	10	10	30	20	25
October	20	25	30	20	20	10	10	30	40	20
November	10	10	30	10	20	25	20	40	10	10
December	10	30	40	10	20	25	25	25	10	10
January	20	10	40	20	30	30	25	20	20	30
February	30	10	25	25	30	40	10	25	25	25
March	40	30	10	25	10	20	20	30	30	30
April	10	25	40	10	25	20	30	10	20	25
May	20	80	20	20	40	20	50	60	20	20
<b>Total Points</b>	<b>170</b>	<b>240</b>	<b>275</b>	<b>150</b>	<b>220</b>	<b>200</b>	<b>200</b>	<b>270</b>	<b>195</b>	<b>195</b>

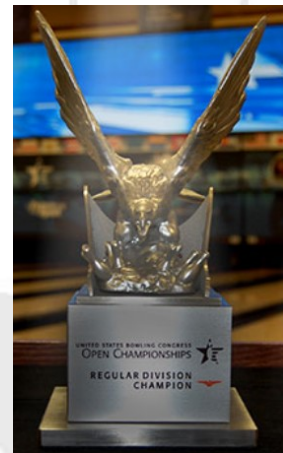
# Tournament Hierarchy





Whether a bowler is Joe Bowler trying to win a sweeper tournament or Jason Belmonte pursuing two Super Slams at the US Open. All bowlers want to be best that they can be and then some. Bowlers practice countless games to perform at the top level that is possible.

Good Luck and High Scores!



Bowlology Academy  
Presents:

Bowling Tournaments



# Tournament Director

- Calculates Prize Fund
- Coming up with a tournament name
- Manages the Bowling Center Relationship
- Promotes the tournament
- Makes decisions on oil patterns
- Sets up the rules for the tournament
- Sets up the tournament format - scratch or handicap
- Manages the scoring system
- Pursues sponsorship possibilities



# Running a Successful Bowling Tournament

If a tournament director wants to run a successful bowling tournament where he or she gets a number of entries, they must think about how to give the bowlers a successful tournament even if a bowler does not win or do well. They also have to make a choice on whether to sanction the tournament by the USBC. This is an added cost to the tournament director. If a tournament director makes it a sanctioned tournament, the USBC tournament rules must be followed. When a youth bowler wins money in an adult tournament, the winnings that they earn must go into their SMART account. Bowling tournaments need to incorporate elements from professional tournaments. By having tournaments across several bowling centers, bowlers can enhance their skills.

# Sponsorship Opportunities

When a tournament becomes successful, a tournament director might decide to find a sponsorship for more money to add to the prize fund. This is an opportunity to receive more prize fund money for the bowlers. The sponsor is going to want to know what he or she will get in return. If it is a local pro-shop, the tournament director might suggest to the pro-shop operator that they will get more customers. Tournament directors might indicate that they may have more challenging lane conditions in the future, therefore the pro-shop operator may sell more balls. Also, the tournament director could propose that a tournament be named after the pro-shop. If the tournament director goes after a bowling ball manufacturer, the manufacturer is going to want to be a major sponsor giving bowling balls to raffle them off. Then adding the raffle money to the end of the year tournament may entice more bowlers to bowl in future tournaments.



The slide below shows a sample of a 1:4 Prize Fund which the tournament would calculate. The director would need to agree with the bowling center proprietor on the price for lineage. It assumes a \$50 entry fee and \$10 for lineage. If there were 10 entries, only First and Second would receive the total prize fund because it is a 1:4 payout ratio. If there were 21 entries, First place would receive \$300.



# Sample Prize Fund (Based 21 Entries-1<sup>st</sup> receives \$300)

15	\$50	\$10	\$600	275	175	150	0	0	0	0	0	0	0
16	\$50	\$10	\$640	250	165	125	100	0	0	0	0	0	0
17	\$50	\$10	\$680	275	175	130	100	0	0	0	0	0	0
18	\$50	\$10	\$720	275	175	140	130	0	0	0	0	0	0
19	\$50	\$10	\$760	275	180	155	150	0	0	0	0	0	0
20	\$50	\$10	\$800	275	180	145	100	100	0	0	0	0	0
21	\$50	\$10	\$840	300	185	150	105	100	0	0	0	0	0
22	\$50	\$10	\$880	300	185	160	135	100	0	0	0	0	0
23	\$50	\$10	\$920	300	200	175	145	100	0	0	0	0	0
24	\$50	\$10	\$960	300	180	145	120	115	100	0	0	0	0
25	\$50	\$10	\$1,000	300	185	160	135	120	100	0	0	0	0
26	\$50	\$10	\$1,040	300	190	165	150	135	100	0	0	0	0
27	\$50	\$10	\$1,080	300	205	180	160	135	100	0	0	0	0
28	\$50	\$10	\$1,120	300	185	160	140	125	110	100	0	0	0
29	\$50	\$10	\$1,160	300	200	170	145	130	115	100	0	0	0
30	\$50	\$10	\$1,200	300	205	180	155	135	125	100	0	0	0
31	\$50	\$10	\$1,240	300	220	185	160	145	130	100	0	0	0





# Sample Point System

In order to grow a tournament, a tournament director has choices to make which will encourage more bowlers to join. One way is with a point system which runs for the entire season. This will entice bowlers to keep bowling at each tournament. A point system can be simple or have many creative ways for bowlers to earn more points. At the beginning, the director should experiment to discover what will draw in new bowlers.

<b>Points</b>	<b>Individual</b>	<b>Combined</b>	<b>Double</b>	<b>Combined</b>
If you bowl	10	10	20	20
If you make the Cut	10	20	20	40
If you Cash	5	25	10	50
If you make Match Play	5	30	10	60
If you Win	10	40	20	80



## Sample Tournament Point System with 10 Bowlers

	Bowler 1	Bowler 2	Bowler 3	Bowler 4	Bowler 5	Bowler 6	Bowler 7	Bowler 8	Bowler 9	Bowler 10
September	10	20	40	10	25	10	10	30	20	25
October	20	25	30	20	20	10	10	30	40	20
November	10	10	30	10	20	25	20	40	10	10
December	10	30	40	10	20	25	25	25	10	10
January	20	10	40	20	30	30	25	20	20	30
February	30	10	25	25	30	40	10	25	25	25
March	40	30	10	25	10	20	20	30	30	30
April	10	25	40	10	25	20	30	10	20	25
May	20	80	20	20	40	20	50	60	20	20
<b>Total Points</b>	<b>170</b>	<b>240</b>	<b>275</b>	<b>150</b>	<b>220</b>	<b>200</b>	<b>200</b>	<b>270</b>	<b>195</b>	<b>195</b>

# Tournament Hierarchy







# The PBA Major Trophies & USBC Open Eagle Trophy



# Big Three Belmonte, Anthony, Williams, Jr. Analysis

In 2008 the PBA celebrated their 50th year anniversary . The bowling writers voted that Earl Anthony was the greatest player ever in the history of the PBA. Jason Belmonte was the Rookie of the Year in the season of 08-09. Walter Ray Williams Jr was still at the top of the PBA. Jason Belmonte would become the first two-handed bowler to win a PBA title later that season. Four seasons later bowling fans would see another type of bowling in the two-handed style. These three bowlers are perhaps the big three of the PBA Tour. They have won multiple Player of the year honors, also they have a been in a force in the Majors. All three of these bowlers knew how to strike in the crucial frames of certain tournaments. The charts at the right indicate how many titles, Majors, Player of the Year awards, high average award winners, Top 10 earnings, and seasons that they did complete or have competed in so far.

Earl Anthony dominated in the 70's and early 80's in that span of time he achieved three significant accomplishments. In 1975 he would become the first bowler to earn a hundred thousand dollars in single season. Earl would later on become the first player to win a million dollars in career earnings. When Earl would earn a Major Tournament, he would win at least twice.

Walter Ray Williams, Jr won a total of 47 titles on the PBA Tour. He became the first bowler to surpass the two- and three-million-dollar earnings mark. Walter would win a total of eight majors. He would also surpass Earl in Player of the Year honors with seven.

Jason Belmonte has won everything on the PBA Tour. As a two-handed player Belmonte dominated the PBA over the last decade. It is interesting when Walter Ray Williams Jr won his seventh Player of the Year honor. Bowling fans might have thought that Walter Ray Williams Jr was the greatest bowler in PBA history. However, Jason Belmonte has dominated the PBA Tour in the last decade and still has a way to go.

Anthony, Williams Jr and Belmonte are currently the top three of the dozen or so PBA Super Stars. It will be interesting to see who the next three Super Stars of the PBA Tour in the years will be to come.





# Big Four Analysis—Roth, Duke, Weber, and Aulby

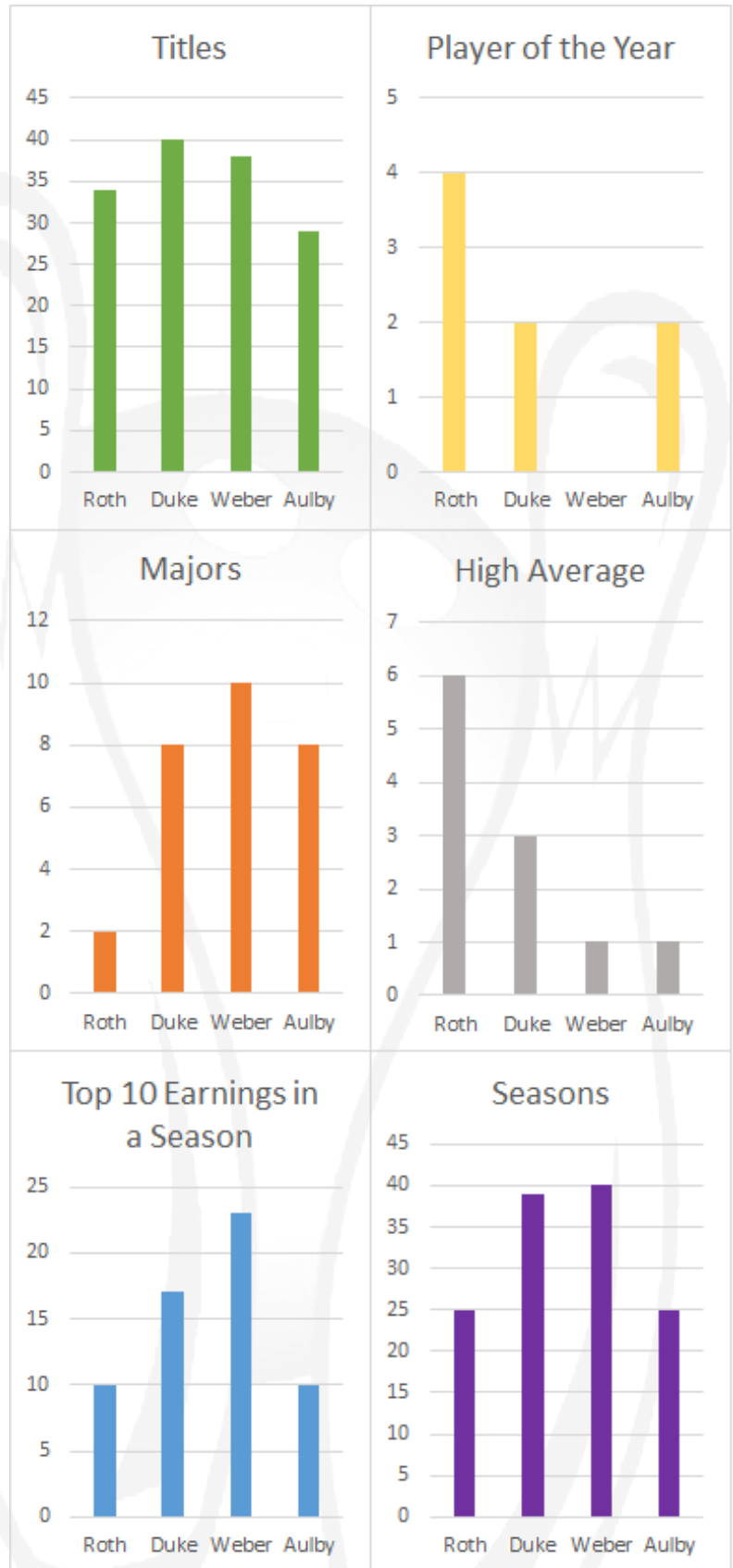
Mark Roth, Pete Weber, Norm Duke and Mike Aulby were voted among the top ten in the 50 greatest of all time. Three of these bowlers were at the top of their game at the same time as Walter Ray Williams Jr. The charts at the right indicate the number of various accomplishments of the players.

Mark Roth was the father of the power game. In 1978, he did the unthinkable of winning eight titles in one season on the PBA Tour. In 1980, Roth would be the first bowler to convert the 7-10 on national television. However bowling fans did not see him win as many Majors as the rest of three guys are mentioned. If there was a weakness in Mark Roth's game, it was winning Major Titles.

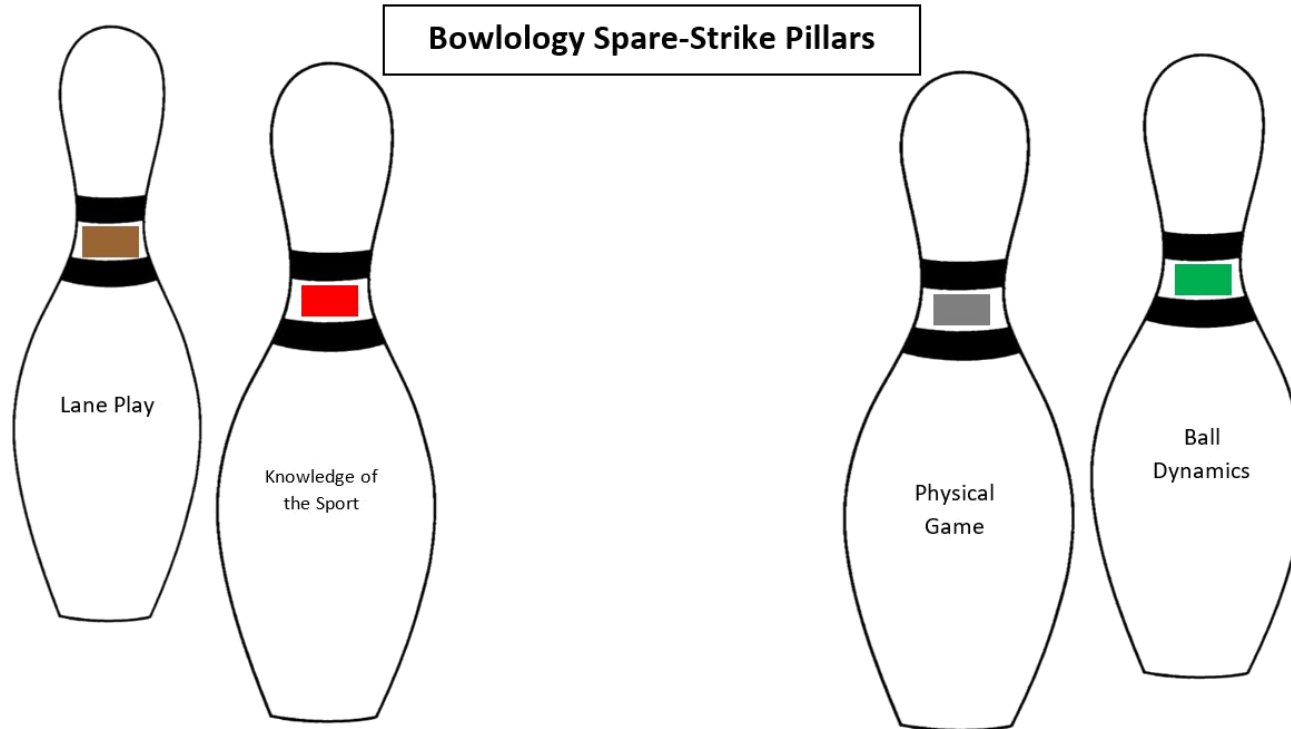
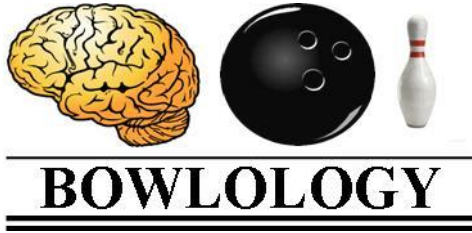
Norm Duke was the youngest player to win a PBA Tour Title when he was 18 in 1983. It would take him seven years to win his second title. Three years later he would add his first Player of the Year honor. Duke would win 1993 USBC Masters. In 1994 he would his second major to his resume at the Tournament of Champions. Duke would go on to win six majors.

Pete Weber was the greatest player to not earn the Player of the Year award. However Weber completed the Triple Crown. Weber won ten titles with plastic, urethane, and resin-reactive bowling balls. Weber won an impressive five US Open titles. Weber did receive the high average award once in his career and would become the first player to receive PBA Rookie of the Year and PBA50 Rookie of the Year on both tours.

Mike Aulby was the first player to earn Rookie of the Year and Player of the Year honors. Aulby would become the first player to win every major on the PBA Tour. He would become the first player to win three USBC Masters titles. Aulby would also become the first player in PBA player history to win the Masters and U.S Open in the same year. Six years later he would become the first player to win the Tournament of Champions on the USBC Masters titles.







# Bowlology Academy Presents: Spare Strike Pillars Clinic

THIS SEMINAR WILL ENABLE BOWLERS, COACHES, PRO-SHOP OPERATORS TO IDENTIFY BOWLING KNOWLEDGE WITH THE BOWLOLOGY SPARE STRIKE PILLARS. BY JOSH HYDE BLP

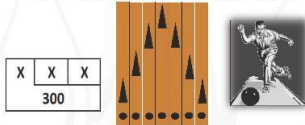


## BOWLOLOGY

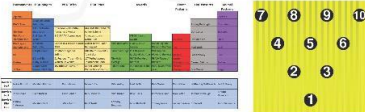
By Bowlologist Joshua A. Hyde, BLP

USBC Silver Certified Coach

Balls + Lanes + Pins = Bowling 39" x 60" = Dimensions of the Lane



"Bowlology"—the study of bowling with the desired result being that the student gains more knowledge of and more respect for the sport.



### Messenger

#### Jones, Glaser and Slade 2020 PBA Hall of Fame Class

- Messenger: Jones, Jones and Slade 2020 PBA Hall of Fame Class 1
- Message Column: PBA's Tour Schedule 2
- PBA's Tour Schedule: Off the sheet 2
- Off the sheet: Bowlers of the decade Jason Belmonte and L.J. Schmitt 3
- Spots Column: 2020 PBA Hall of Fame Class 3
- Bowlology Rock: Split Column Three Championship Round Bowlers who have a knockout 4
- Breakpoint: PBA League Expansion 4

There were three inductions into the PBA Hall of Fame, Rob Glaser, Mike Slade, and Tommy Jones. Both Mike and Rob were inducted for the meritorious service as they were both a key part of purchasing the PBA tour in 2000 with Chris Peters. Mike and Rob were both Microsoft employees. All three of these individuals bought the PBA for 5 million dollars. They saved the PBA tour from bankruptcy. Mike who had designed the websites for ESPN, NBCSN, and the NFL, was a major part of developing the PBA website. He also would make a television contract with ESPN to have bowling in primetime. Rob Glaser had the strategy for the PBA and brought in some major leadership. Rob Glaser had previous experience in the bowling industry even though it was in a league when he was a child. During his acceptance speech stated "that when you are around people who are the best it's really inspiring".

Tommy was the only superior performance in this year's PBA Hall of Fame. He had 19 PBA titles including 2 Majors. In 2006 he captured the US Open and the 2007 Tournament of Champions. He is also one of the 5 players to earn both Player of the Year Award and Rookie of the Year honors. Tommy joined Mike Durbin the following day as the only player to win the tournament when he was inducted to the PBA Hall of Fame.



From left to right 2020 PBA Hall of Fame inductees Mike Slade, Rob Glaser, and Tommy Jones

\*The Professional Bowlers Association, LLC ("PBA") is not affiliated with any major bowling association. The opinions and positions are those of the PBA.



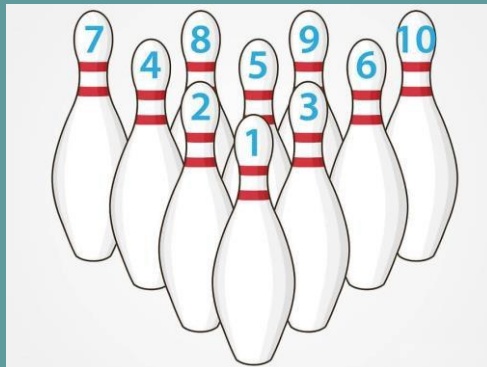
## 2015 MEDIA KIT

Presented by:



# KNOWLEDGE OF THE SPORT

1	2	3
9 20	<del>39</del>	7 48



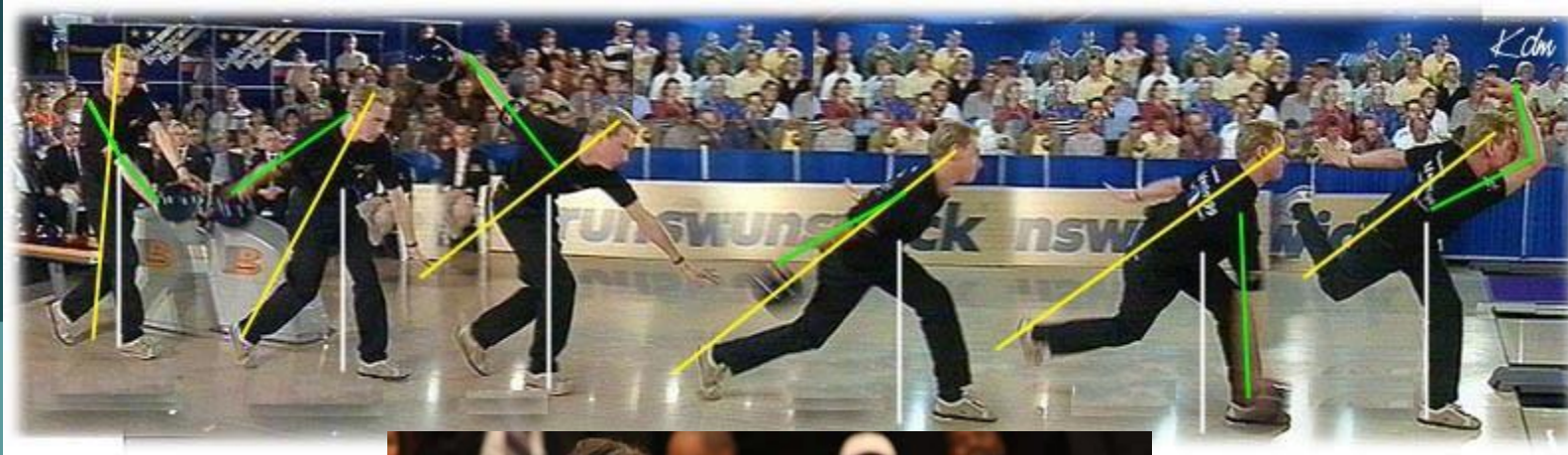
Right Handed						
35	30	25	20	15	10	5
Left Handed						
5	10	15	20	25	30	35



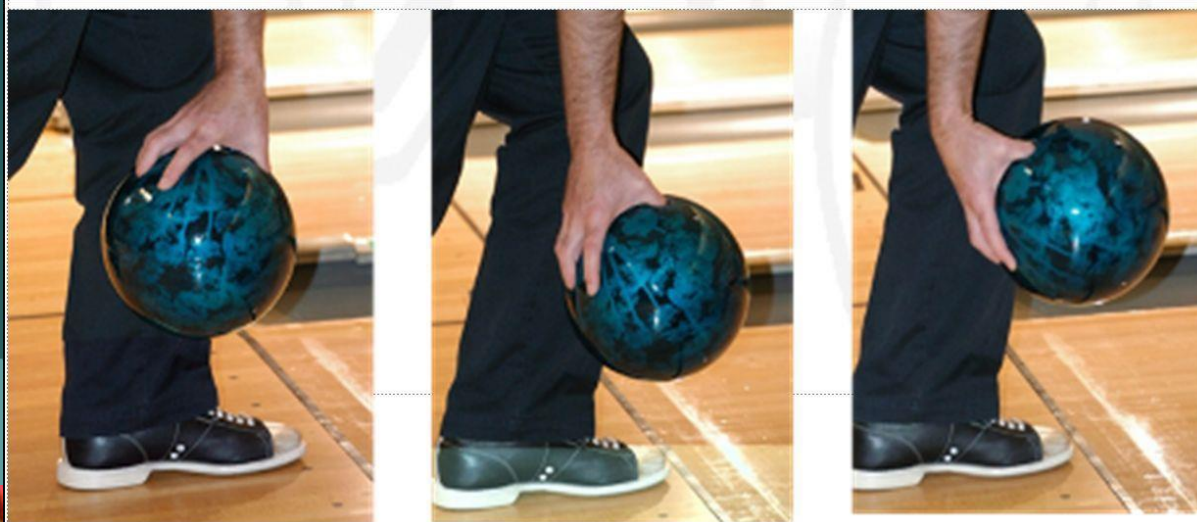
Right Hand			
Spare	Diagram	Move	Target
2-4-5		3 Boards Right	Aim between the 2nd and 3rd arrow
1-2-8		2 Boards Right	Aim between the 2nd and 3rd arrow
2-4-8		3 Boards Right	Aim between the 2nd and 3rd arrow
4-7-8		5 Boards Right	Aim between the 2nd and 3rd arrow
3-6-9		6 Boards Left	Aim between the 2nd and 3rd arrow
3-6-10		6 Boards Left	Aim between the 2nd and 3rd arrow
6-9-10		8 Boards Left	Aim between the 2nd and 3rd arrow
1-5		Strike Shot	Aim between the 2nd and 3rd arrow
2-4		5 Boards Right	Aim between the 2nd and 3rd arrow
2-8		3 Boards Right	Aim between the 2nd and 3rd arrow
3-6		5 Boards Left	Aim between the 2nd and 3rd arrow
4-7		8 Boards Right	Aim between the 2nd and 3rd arrow
4-8		6 Boards Right	Aim between the 2nd and 3rd arrow
5-8		1 Board Right	Aim between the 2nd and 3rd arrow
5-9		Strike Shot	Aim between the 2nd and 3rd arrow
6-10		10 Boards Left	Aim between the 2nd and 3rd arrow
1-2-4-5		5 Boards Right	Aim between the 2nd and 3rd arrow
1-2-4-7		6 Boards Right	Aim between the 2nd and 3rd arrow
1-2-4-8		6 Boards Right	Aim between the 2nd and 3rd arrow
2-4-5-8		3 Boards Right	Aim between the 2nd and 3rd arrow
3-6-9-10		6 Boards Left	Aim between the 2nd and 3rd arrow



# PHYSICAL GAME

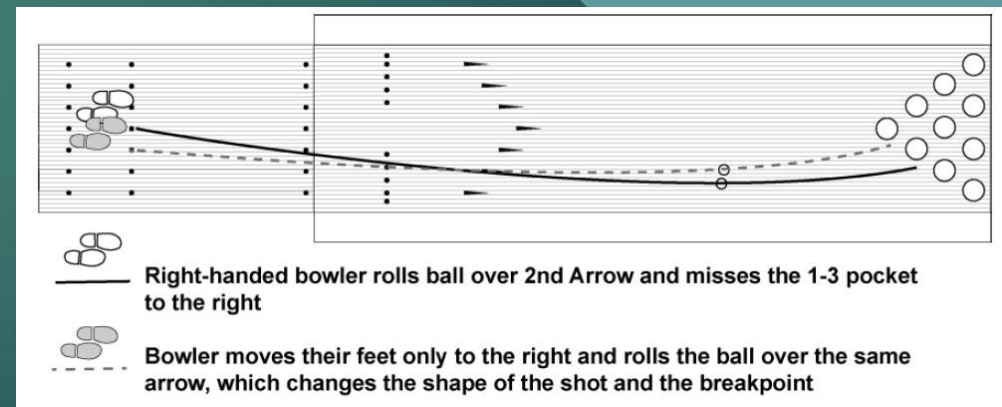
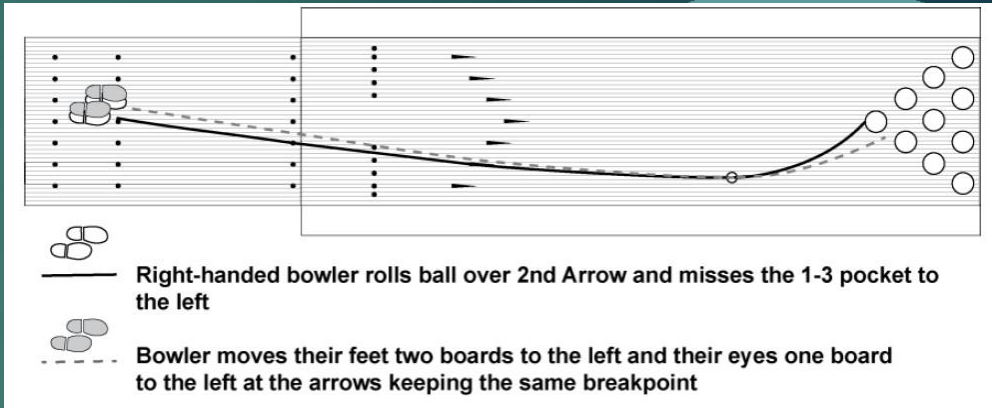
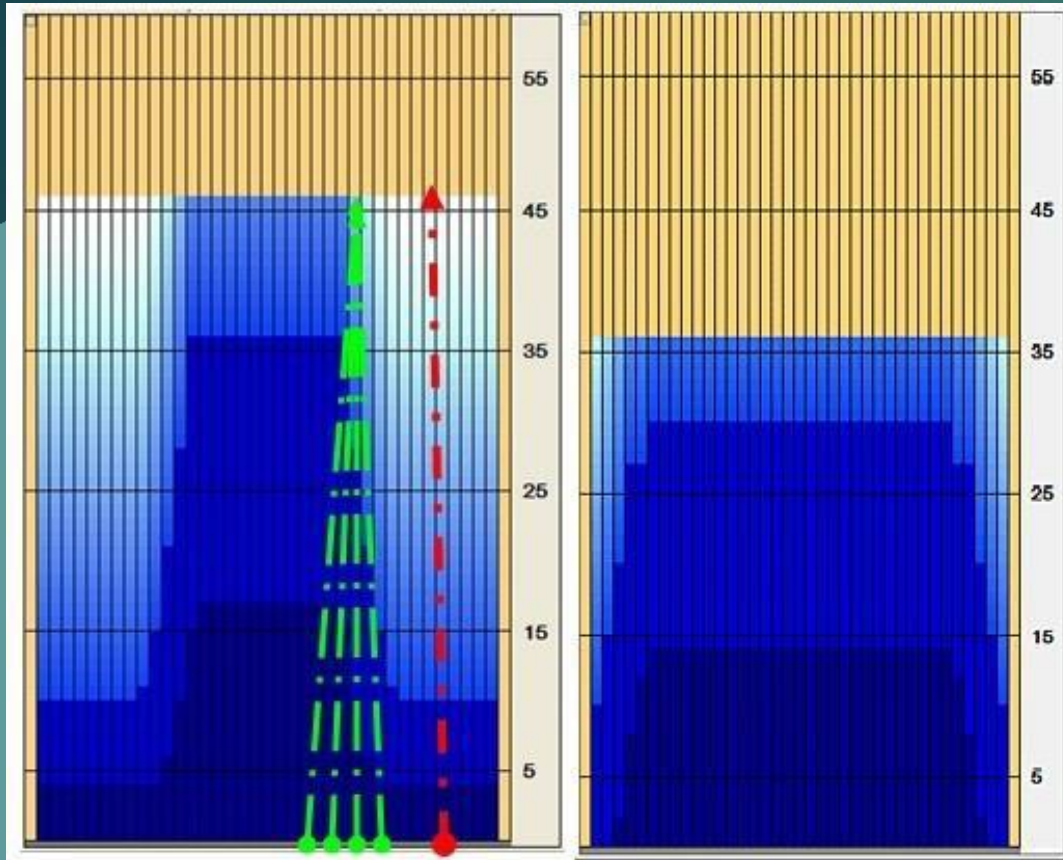


# PHYSICAL GAME



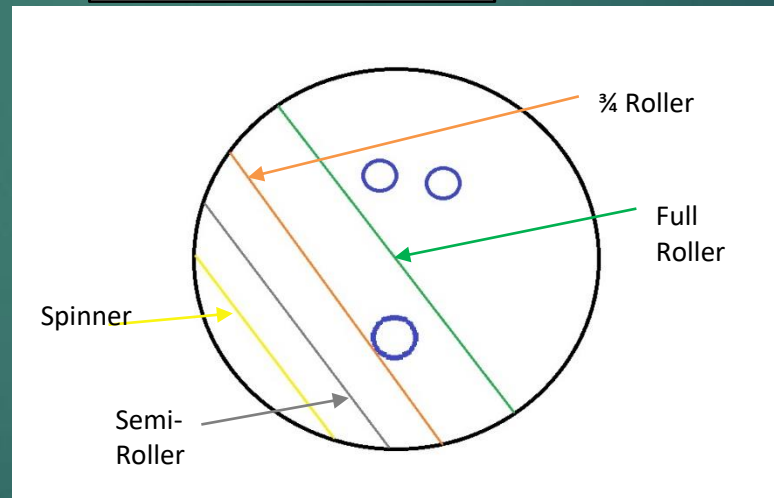
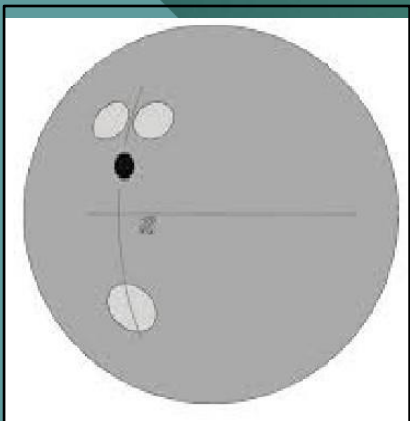
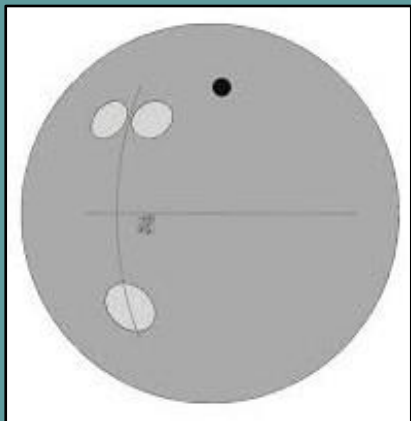
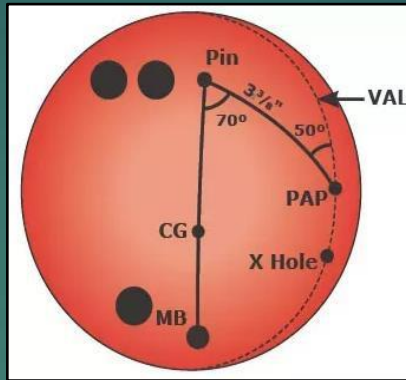
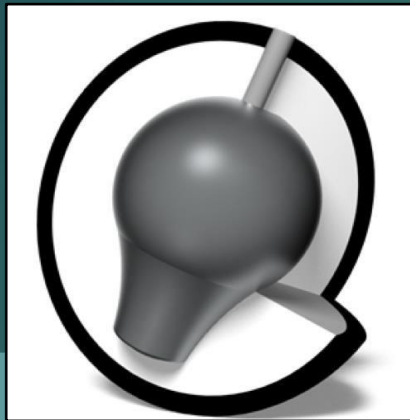


# LANE PLAY

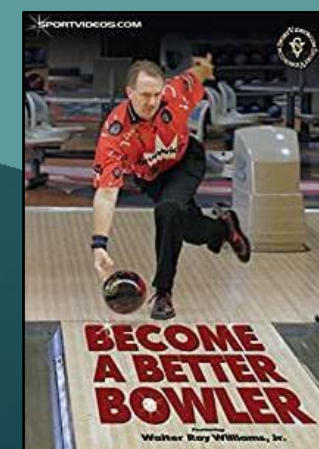
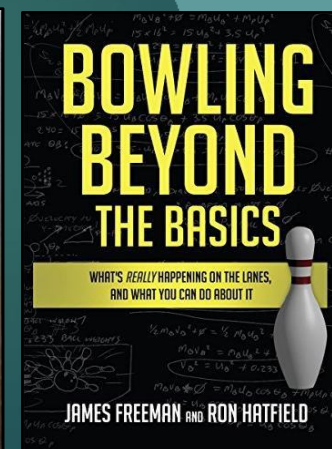
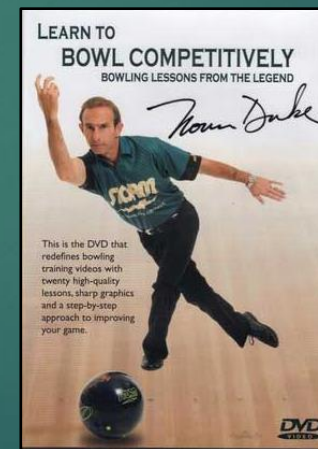
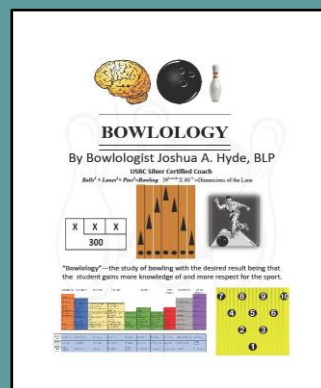
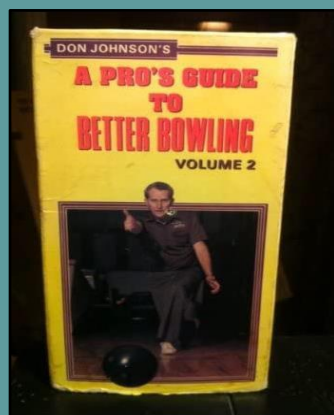
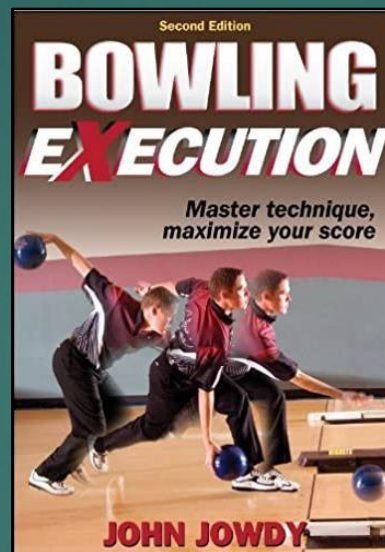
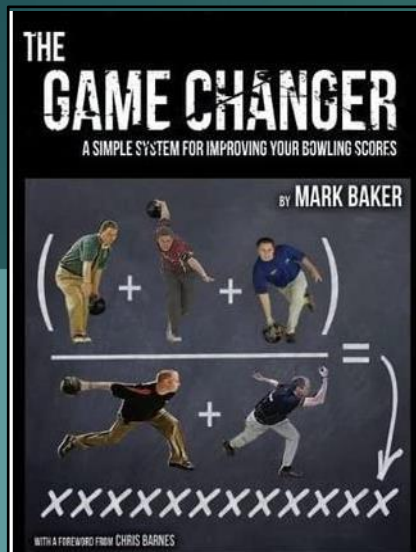
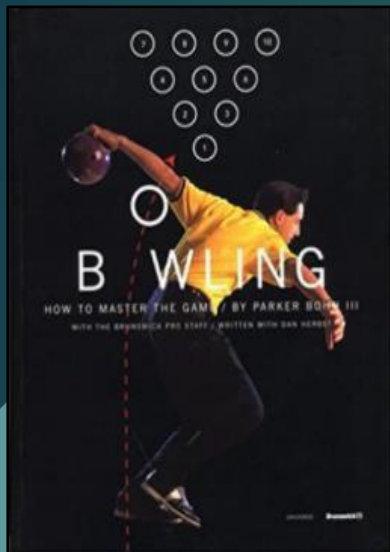




# BALL DYNAMICS

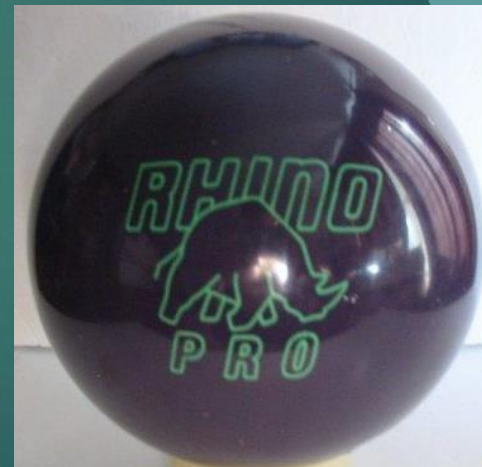
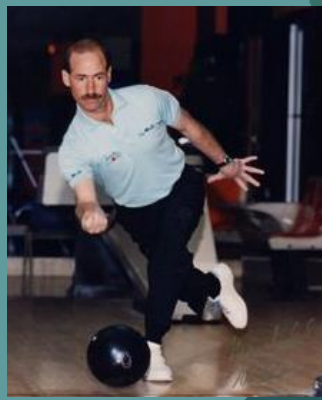


# GREATEST MINDS OF BOWLING





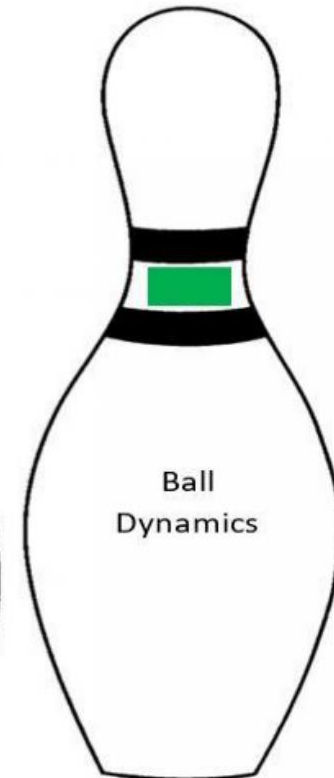
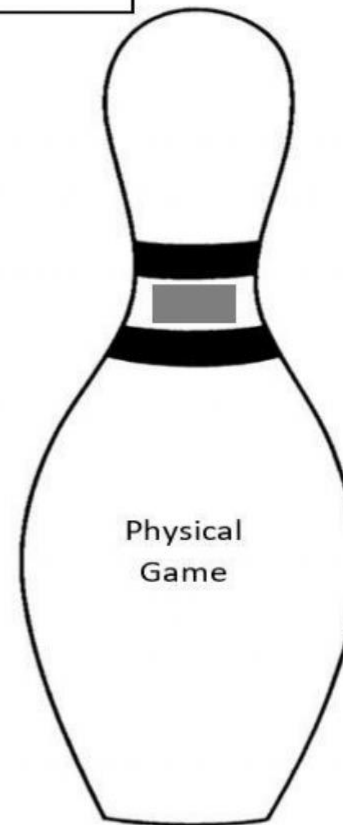
100





# Bowlology Spare Strike Pillars

## Bowlology Spare-Strike Pillars



# Pin Carry

Pin carry is an essential part of a bowler's score. If there is no pin carry, more than likely a bowler's score is going to be lower. If a bowler can carry, however, his score will reflect that.

In the first Bowlology that I wrote, I discussed the perfect strike. There are five categories of strikes. The perfect strike is the Solid Pocket where the ball takes out the 1-3-5-9 pins. The ball will exit the pin deck left of the 9. The second type of strike is the Light Pocket where the ball hits the 3 pin and exits right of the 9 pin. This is where Billy Welu came up with the phrase "hit them thin and watch them spin." The third type of strike is the High Pocket. The ball will be more toward the head pin and exit left of the pin deck for a right handed player. The fourth type is the Brooklyn which is when the ball crosses over and hits 1-2 for a right-hander. For a left-hander, a Brooklyn strike would be when the ball crosses over and hits the 1-3.

There are three factors regarding the lane that influence pin carry: 1) pin deck, 2) kickback plate, and 3) flat gutter. The pin deck material will have the most effect on pin carry. The kickback plate has the second most effect on pin carry which is caused by the pins flying out and taking out pins that are still standing. Believe it or not, the flat gutter has the least effect on pin carry even though bowling fans see pins coming out of the gutter to take out other pins all the time. With the flat gutter, it is harder for the pins to come out. The lane will tend to be higher than a flat gutter. With regular gutters, pins will more likely be able to take out other pins by bouncing out of the gutter than in a flat gutter.

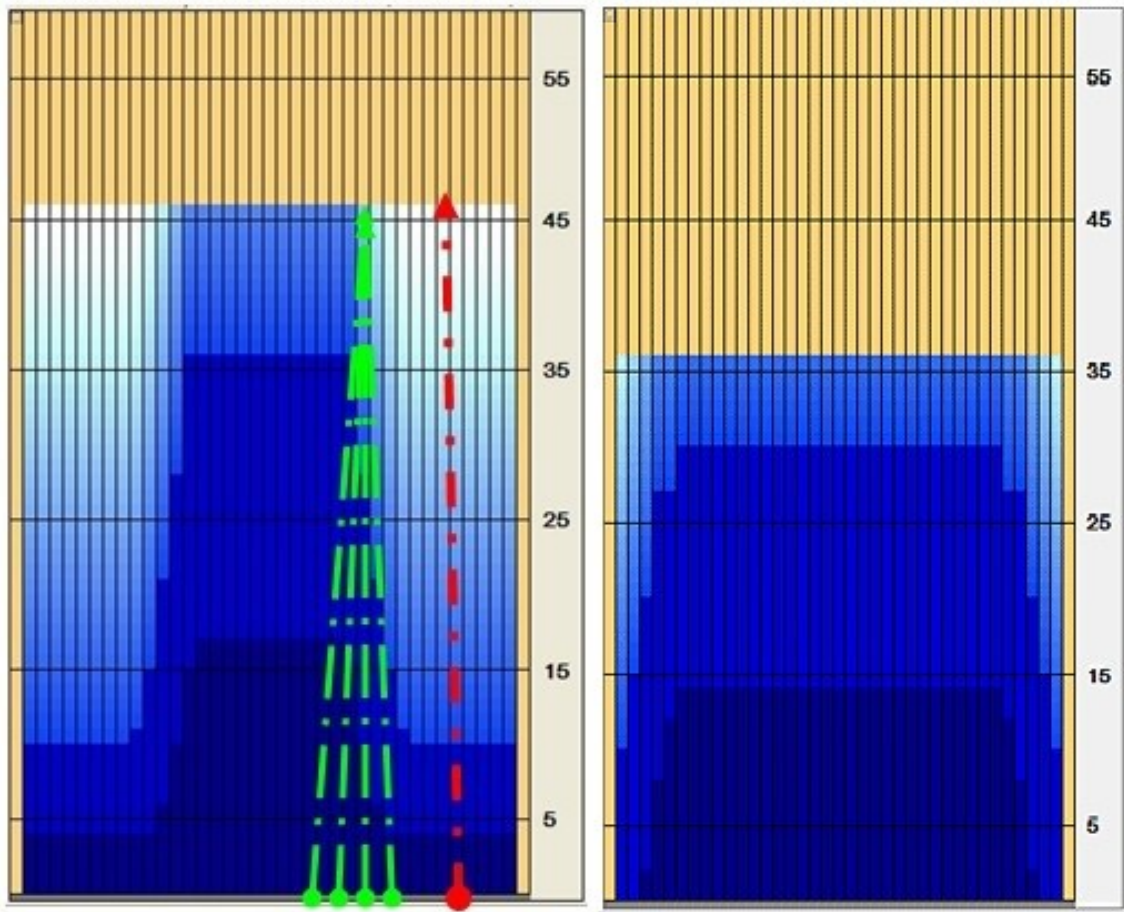
Another factor that affects pin carry is lofting. A way to practice this is by putting a towel out about a foot past the foul line, and throwing the ball over the towel. This will give the bowler more loft, and he/she will be able to carry more of the corner pins.

The name of the game is pin carry. This will help bowlers not leave as many ringing ten pins (or ringing seven pins for the left handed bowler). If bowlers are able to carry more, there scores will dramatically go up from a 2-0 game to a 240 or 250 game. This is how bowlers are able to carry more.



# **Bowling is a Surface Sport**

Bowling is a sport where outcomes are dependent on a surface. The more friction the lane has, the more the ball can hook. The less surface a bowler has on the lane, the less the ball can hook. In sports where, the balls are in the air as soon as the ball sees the friction, it is going to hook. Surface dictates how the ball is going to react on the lane. The longer the oil on the lane is, the longer the ball will not see the friction. As soon as the ball can get into a roll or see the friction, the bowling ball will be able to hook. Bowlers are allowed to change surfaces on their ball prior to competition. This will help the bowler's ball to have more or less surface, therefore it is able to hook sooner or less if desired. The less surface that a ball has, the more it will go down the lane and will not be able to hook. When the oil is longer on the lane surface, a bowler's ball is not able to see the surface, and will not hook until it sees the friction on the lane. Surface is a major factor in the sport of bowling.





# Finding a Bowler's Positive Axis Point

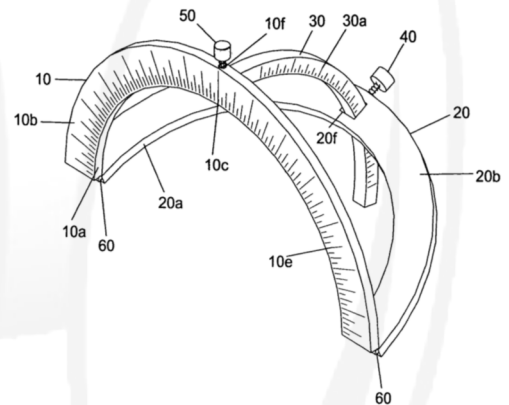
In order for a bowler to get a correct drilling layout they must figure out where their positive axis point is. I will be describing this process months Bowlology.

To do this accurately the bowler is going to have to throw the ball where there is oil on the lane, usually toward the center of the lane. Once the ball comes back through the ball return the bowler will mark the oil track around the surface of the ball.

If there are multiple rings around the ball, mark the one closest to the finger and thumb holes. Put the ball in the ball cup so the track is below the center of the ball and level with the table. At that point the bowler or pro shop operator will mark the top of the ball. The bowler will then throw another shot to see if the mark is stationary with the ball rotating around the mark when it is released.

Most bowler's axis point will be between 4 1/2 and 5 1/2 inches right of the grip center, left of grip center if you are left-handed, and even to one inch above the center line. If you can't see the oil track on the surface of the ball, start with the tape in this area and move it around on successive shots until its steady off your hand when the ball hits the lane.

Once you have found your release axis you can measure the distance your axis is right or left of the grip center and how far up or down from the center line it is.



# Axis Rotation

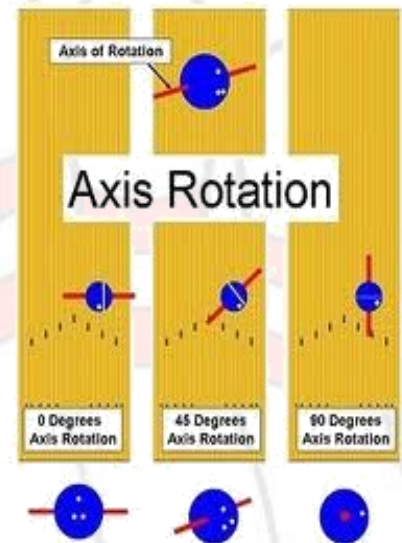
This topic will be on axis rotation, which is the horizontal measure of the angle of the ball's revolutions. Closely associated, and often confused with axis rotation, is axis tilt. Axis tilt is defined as the vertical angle at which the ball rotates. I will cover axis tilt in the November newsletter.

The release position of the fingers dictates the amount of axis rotation, known also as side roll. A 0-degree axis rotation is when the fingers exit the ball at a 6 o'clock position, and the ball rolls end-over-end. This creates minimal or no hook.

If the fingers exit the ball at the 3 o'clock position, the result will be a 90-degree axis rotation. This will introduce more hook.

Right-handed bowlers rotate their hand at release in a counter-clockwise motion; while left-handers release the ball in a clockwise motion.

Most bowlers have a release somewhere in between 0-90 degrees. The half-way point would be 45 degrees which is considered the most versatile release position. As a bowler, knowing the



# Axis Tilt

Axis tilt is the vertical angle at which the ball rotates prompting the ball to skid as it rolls down the lane. As a result, backend hook potential is reduced.

As the bowler watches the ball go down the lane, the bowler will see the opposite in axis rotation and tilt to what you see on paper regarding the vertical and horizontal axis. The more tilt the bowler employs, the more spin he creates on the ball.

Axis tilt will be bad if the ball track is further from the finger holes. Axis tilt is created by either cocking or collapsing the wrist at release.

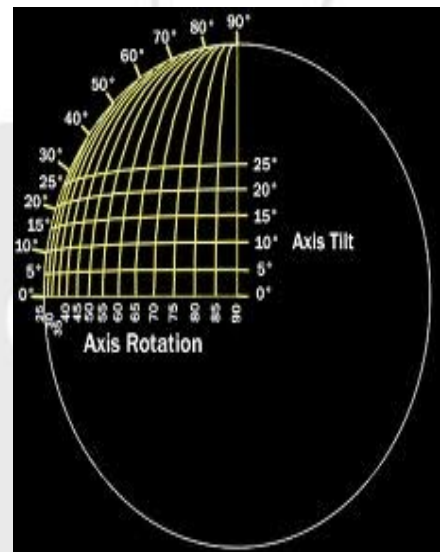
At 90 degrees, the axis will be straight up. At zero degrees the axis is on the horizontal plane.

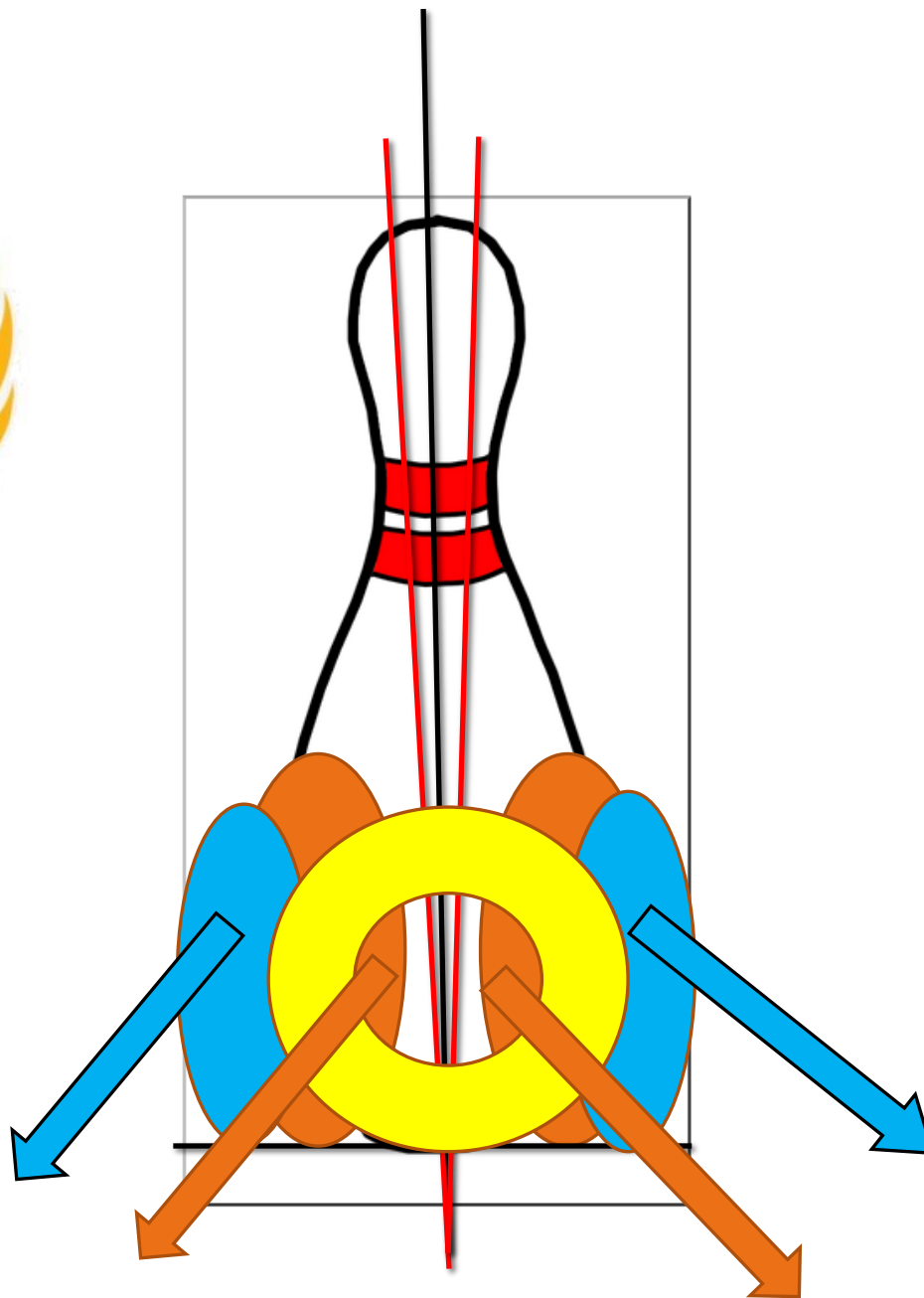
The higher the tilt the smaller the ball will track and the longer the ball will go down the lane before hooking. The lower the tilt the larger the ball track and the sooner the ball will hook on the lane.

A bowler can change their axis tilt by releasing the ball in different ways. If the bowler overturns the ball it will spin like a top. However if the bowler releases where the thumb comes out first, then the ball will have a chance to react like it is supposed to.

When the bowler is looking at axis tilt on paper and on the lane it looks different. On paper it is one dimensional and the lane is three dimensional.

The diagram above indicates the degrees of axis tilt and axis rotation that a bowler can have. Tilt is vertical and axis rotation is horizontal.





# Single Pin Spare Analysis



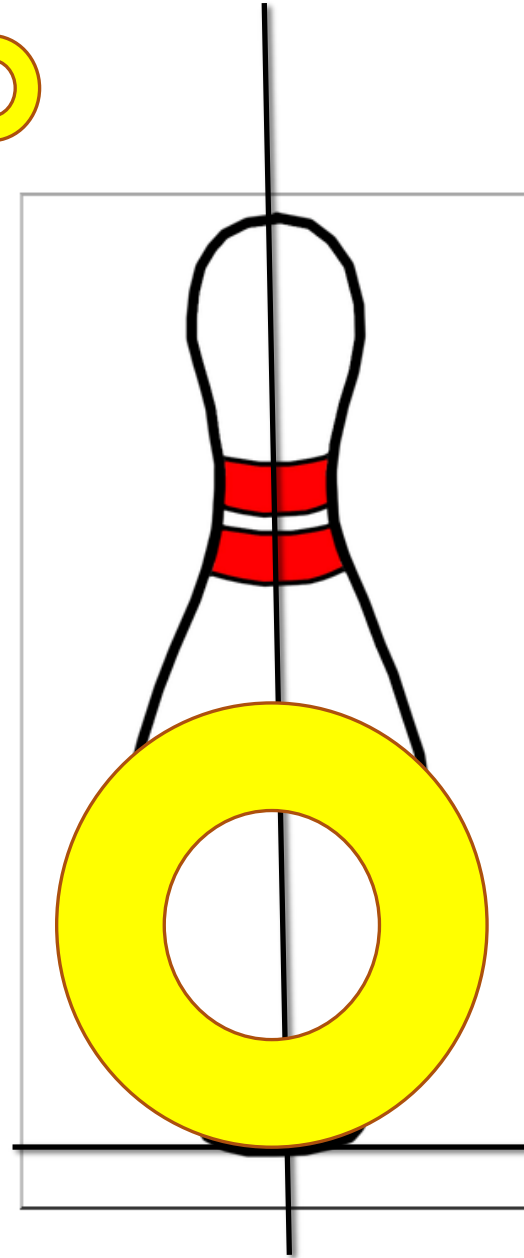
# Yellow Dead-On Ball Impact Zone



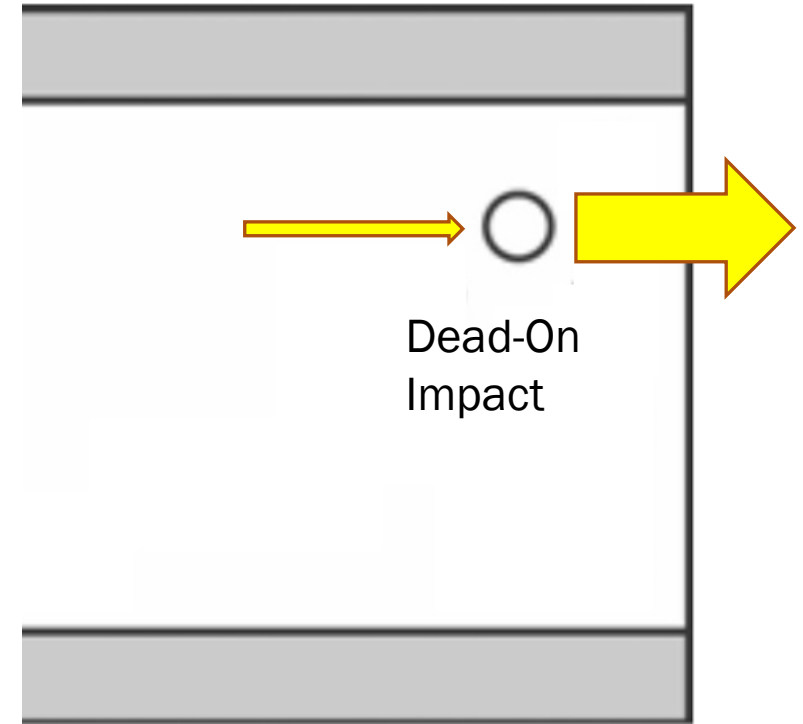
This diagram represents dead-on impact of a bowling ball to a single pin spare situation. A bowler cannot rely on pin action during a single pin spare.

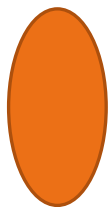
The Dead-on impact is the absolute way to guarantee a clean frame.

Coaches recommend that bowlers use a plastic ball. The combination of the ball type and the dead-on impact eliminate the lane conditions and has little to no hook.



The ball delivers a large amount of energy to the pin. Both are cleared to the pin curtain in a strait line. There is a 0 degree difference between the ball and the pin. All 8 ½ inch width of the ball completely covers the width of the pin





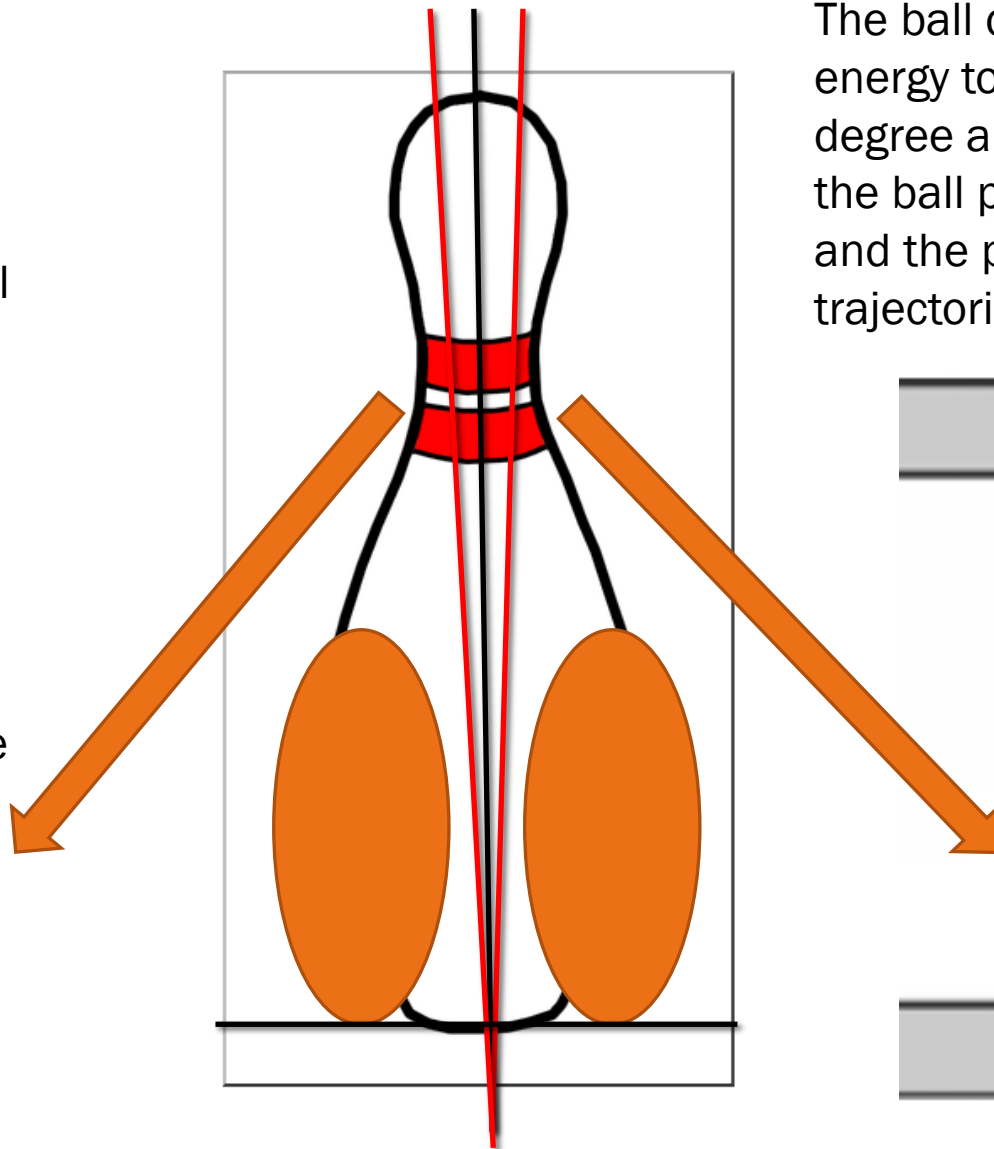
# Orange Clipping Impact Zone

This diagram represents a Clipping impact of a bowling ball to a single pin spare situation.

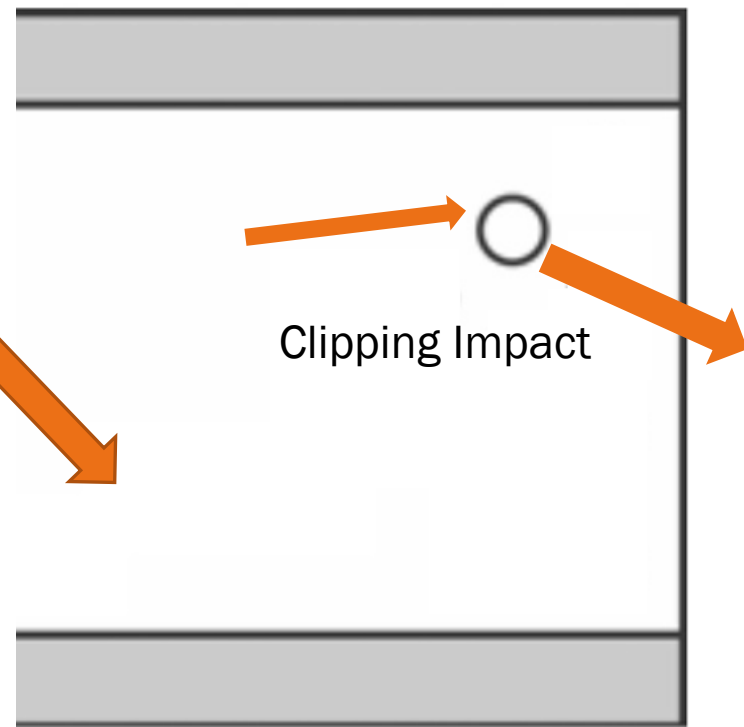
This will probably result in a spare if enough energy can be delivered to the pin.

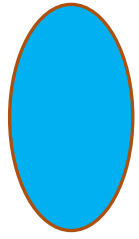
Since it clipping impact, the weight and speed of the ball are a factor in how much energy is delivered to the pin. It needs to be enough to make the pin tilt at least 8 degrees. A speed-dominate bowler can increase their margin of error.

8 degrees of tilt to get the pin to fall over



The ball delivers a partial amount of energy to the pin. The impact at a 45-degree angle overlaps with 2 inches of the ball part to the pin. Both the ball and the pin are redirected at different trajectories.



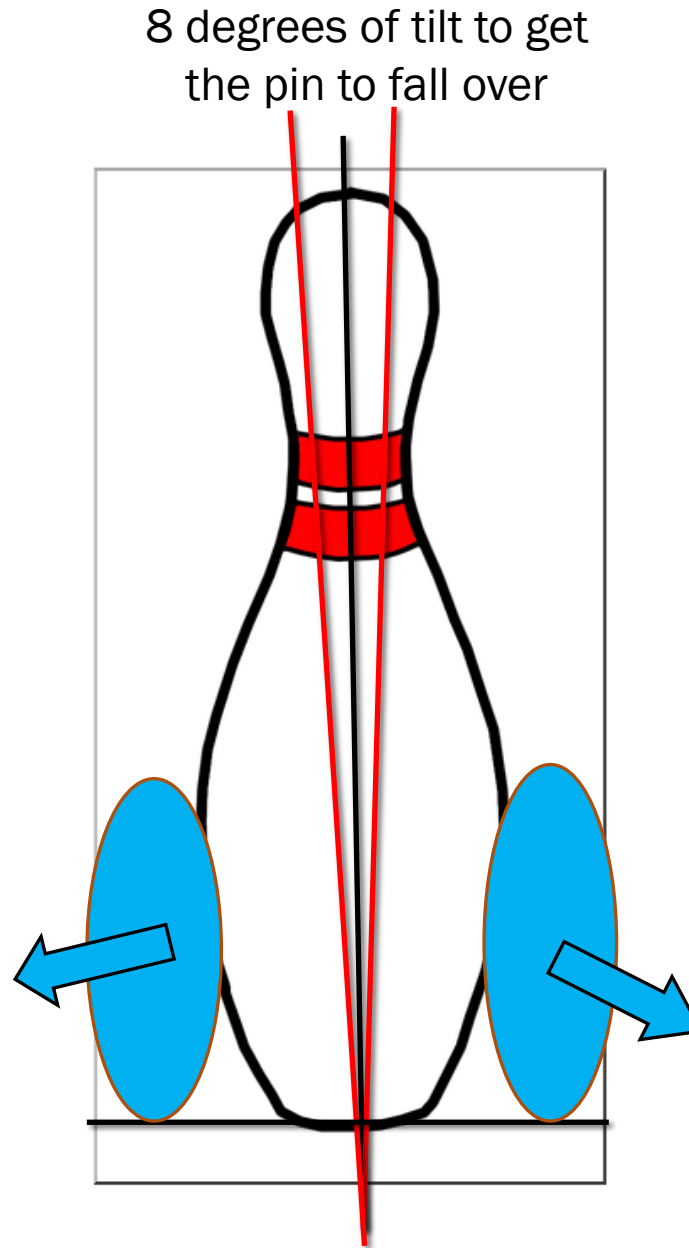


## Blue-Grazing Impact Zone

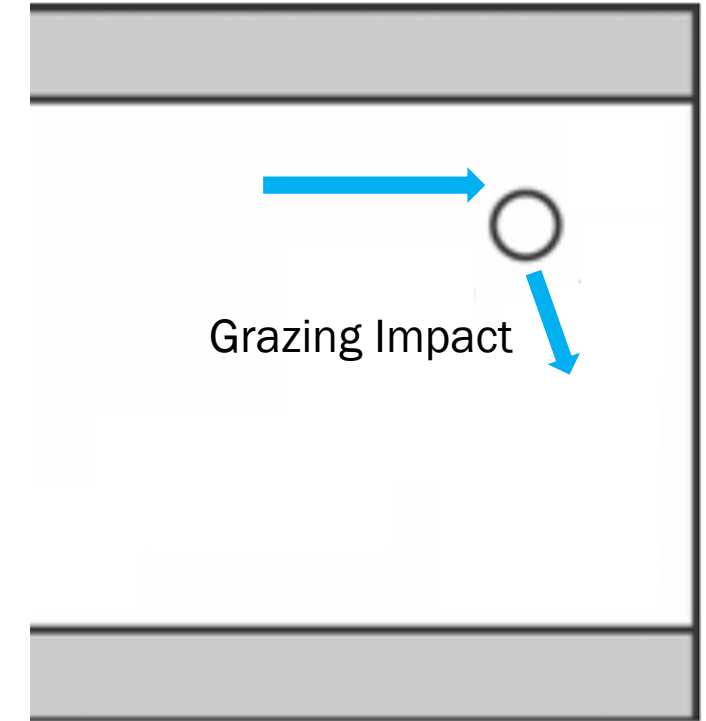
This diagram represents a Grazing impact of a bowling ball to a single pin spare situation.

This might result in a spare if enough energy can be delivered to the pin. This kind of impact makes the bowler sweat a little.

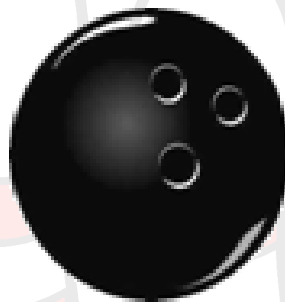
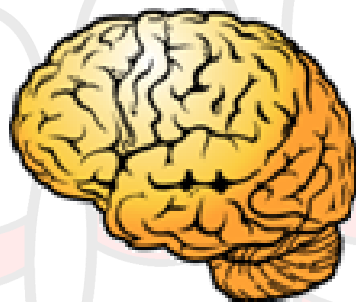
If the ball is moving fast, the pin will shoot across the lane at an angle. This is how a bowler can make a split, but it requires accuracy and power.



If the ball delivers a small amount of energy to the pin, the impact at a 75-degree angle overlaps with 1/2 inch of the ball part to the pin. The ball is slightly re-directed and the pin moves at a sharper angle.

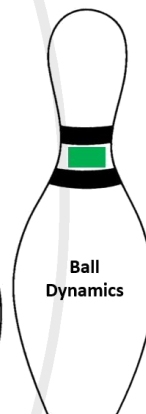
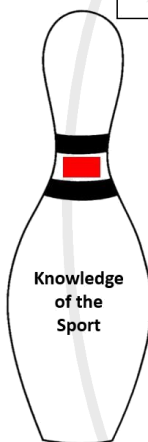






## BOWLLOGY

Bowlology Spare-Strike Pillars



# Bowlology Presents: *The Bowlology Media Kit*

Bowlology Academy Overview, Bowling Organizations, Becoming a Bowlologist,  
Book & DVD Reviews, Bowlology Academy Flyers



By Bowlologist Josh Hyde B.L.P  
USBC Silver Coach



# Intro to Bowlology Academy

In 2021 Bowlology Academy was formed into courses that a bowler wants to obtain in their bowling career. Bowlology Academy offers a wide variety of classes such as Bowlology 200 and PBA800. There are five courses taught in the Bowlology Academy from a beginner bowler to a professional bowler. Bowlology Academy also offers a one-day clinic. This clinic is the Spare Strike Pillar. Where Bowlers, Pro-Shop Operators and Coaches learn the four key elements of bowling. This clinic is a credited class for the Bowlology Academy.

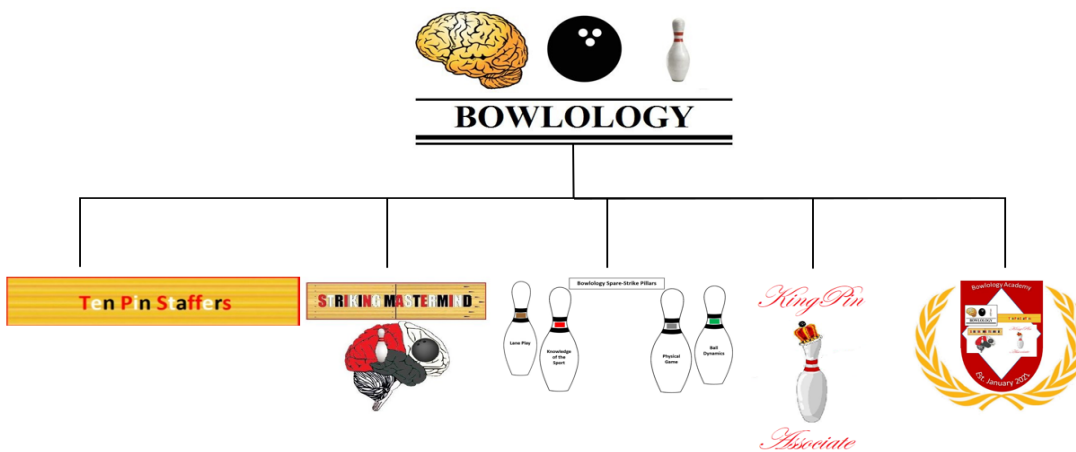
- **Bowlology 200** - which is the basics of the bowling. This includes the history of bowling from 5000 years ago to today, how to make spares, the rules of score keeping, and the method of the perfect strike.
- **Ten Pin Staffer 700**— the course is mainly for pro-shop operators and coaches. This introduces bowling ball construction and how to setup a ball for a bowler.
- **Striking Mastermind 750** - is for the tournament bowler that may need more help learning how to adjust on the lanes or when to switch balls. This continues with a deep dive into bowling ball physics, how to develop an arsenal and how to read the lanes.
- **The PBA 800**— the course is for the bowlers who have tried at least one PBA Regional. In this course, we review the scoring system of the PBA, Lane Courtesy, Player Services, Requirements for joining the PBA and PBA lanes maintenance program.
- Lastly, but certainly not least, is the **KingPin 900 course**. This course is designed to get people to think critically about the sport and share the knowledge with other bowlers.

## Mission Statement:

To expand Bowling Knowledge for Bowlers, Coaches, Pro-Shop Operators in innovative way

## Vision Statement:

To impart knowledge to the beginner, intermediate, and advanced bowlers about the sport of bowling through the Bowlology Academy Programs: Bowlology 200, Ten Pin Staffers 700, Striking Mastermind 750, PBA 800, and KingPin Associate 900 and Spare Strike Pillars Clinic.



1022 Pike Shore Drive, Warsaw, IN 46580  
Josh Hyde Bowlologist, B.L.P.  
Dean of Bowlology Academy

# Josh Hyde's Bowling Accomplishments

Attended a total of 128 PBA Tour/PBA50 Tour/PBA Regional & PBA50 Regional Tour Tournaments, 28 of those were Majors and 64 of them were PBA Tour Events

USBC Hall of Fame Committee Member since 2020

PBA Hall of Fame Committee Member since 2014

IBMA Member since 2010

2011-3rd Place Feature "Bottom 5 of the 50 Greatest"

2010-3rd Place Editorial "World Series of Bowling"

2013-1st Place Newsletter "Josh Hyde's Bowling Newsletter"

2012-1st Place Editorial "Bowling Physics " "Yesterday vs. Today"

2010— 2nd Place Handicap Championship Tournament

2013-1st Place Editorial "Player of the Year Pick"

2013 1st Place Newsletter IBMA Amateur Writing Contest

2013-3rd Place Editorial "Using PBA Publicity"

Six 800 series (837) Highest Series

High Game: Five 300's

May 2013- Bowler's Journal International "Our Man in Indy: Josh Hyde on New Hall of Famer Doug Kent"

Bowlers Journal Interactive September 2014 PBA50 Giving Bowlers New Life

2014— the present PBA Hall of Fame Committee Member

2014 IBMA Amateur Writing Contest Second Place Newsletter

2014 IBMA Amateur Writing Contest Third Place Feature

2015 3<sup>rd</sup> Place IBMA Newsletter March 2014

2015 50th Anniversary Tournament of Champions Media Kit Author

2015 USBC Bronze Certified Bowling coach

Vise Grips Regional Pro-Staff Member

2015 IBMA 1<sup>st</sup> Place Editorial "Regulating bowling equipment for Pros"

2015 2<sup>nd</sup> Place Editorial "Is Bowling a Sport?"

Special Recognition Journalistic Excellence Josh Hyde " for the creation of a comprehensive and compelling PBA Media Guide showcasing the Pro-Bowlers Association Tournament History"

April Edition of the Bowler's Journal International " PB3 comes through for PBA Superfan"

November 2011, Introduce Bowlology to the Josh Hyde's Bowling Newsletter

November 2019, Completion of the Bowlology book

November 2019, USBC Silver Coaching Certificate

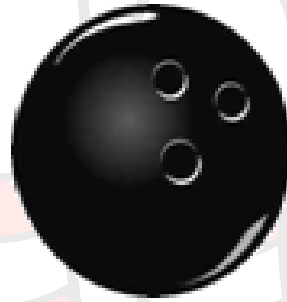
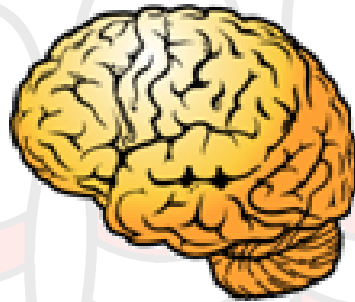
2020 USBC Hall of Fame Committee Member

2021 IBMA Writing Competition Division 2 Editorial -Second Place "Career of a Bowlologist"

2021 IBMA Writing Competition Division 2 News-Honorable Mention "2021 KIA Playoffs

2021 IBMA Writing Competition Division 2 Feature "Hall of Famers Pass Away"





# BOWLOLOGY

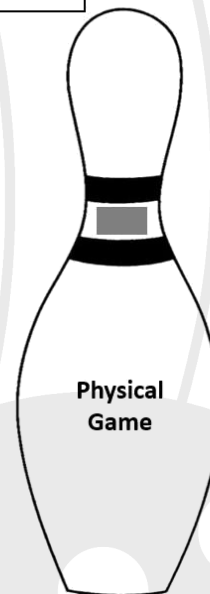
## Bowlology Spare-Strike Pillars



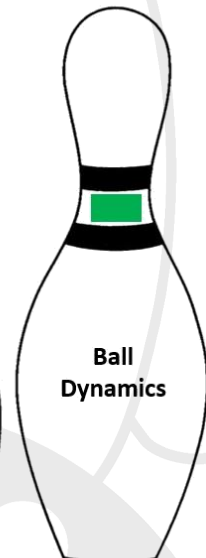
Lane Play



Knowledge  
of the  
Sport



Physical  
Game



Ball  
Dynamics

**Bowlology Presents:**  
**Bowlology Academy Overview, Fact Sheets & Exams**  
This program will enable bowlers, coaches,  
pro-shop operators to identify bowling knowledge

By Bowlologist Josh Hyde B.L.P  
USBC Silver Coach



# Knowledge of the Sport

This may sound elementary; however bowlers do not know what they think they know. Some do not even now how to keep score, some do not even know what pins they even left. When they leave a spare. The knowledge of the sport is the foundation to have a great mind in bowling. If a person does not even know what pins they left when they shot a 299, this shows they are not even on an amateur level. The knowledge of the sport is the foundation in helping bowlers to improve in their game. Keeping score in bowling was one of the biggest challenge to learn. As I got better, I thought as if I could absorb bowling knowledge like a sponge. To be a pro-bowler pros know what they need to do when they win a game for a title or to advance to the

## Physical Game

One-fifth of the lanes is the approach this is where the bowler has to put their position to execute properly so they can win a pot game or a small tournament at their bowling center. The text-book style is a good place to start but as a bowler wants to advance their game. They need to work on fundamentals and one advanced move that they can think can do. Timing in a text-book is moving the ball and the feet at the same time. For a pro-bowler this may not be the case. They are more advanced at the game than what the average Joe Bowler is doing with bowling three games a week and a sweeper here and there. Some fundamentals that bowlers see from the pros in their game are textbook like while others are what an experienced and talented pro would do. Coaches would not want their students to emulate what the pros are doing right off the bat as a student needs to learn the basics and how they react on the lanes. The textbook style with a four-step approach would be 1,1,2,2,3,3,4,4. This is an easy way to teach the first-time bowler as the coaches get more advanced. They need to work with what the bowler has and try to help them critique their style of play.

## Lane Play

Bowling is a surface sport. Bowlers are going to have to adjust in their league or tournament play. There are all kinds of adjustments, such as hand position changes, that a bowler can make during lane transition. If they expect the lane to remain the same during a game in league or tournament play, they are sadly mistaken. If bowlers know how to play lanes throughout the course of the block, they might have a leg up on the field in tournament play or league. However, if they do not know how to adjust on the lane, they will be at a disadvantage. Smart lane play helps a bowler know what to do when he/she runs into a difficult situation.

## Ball Dynamics

In ball dynamics there are a number of layouts that a pro-shop operator can use. In the past bowlers have been told that a pin-down ball will read the lanes earlier. A pin-up will read the lanes later. This is true however bowlers need to rethink as a pin up or pin-down as the delaying or making the breakpoint sooner. Bowlers need to keep in mind that the surface of the ball is more important as to the layout of the ball. There are three types of bowlers the spinner, three quarters and the full roller. Pro-shop operators need to know the bowler's positive axis point to be able to suggest a ball that a bowler could buy. If a bowler has a pin-up ball but is sanded to 1500 the ball is going to read earlier. Vice versa if a bowler has a pin down ball but is polished the ball is going to react later. Since it is polished both balls will still read earlier or later depending the bowlers PAP. In developing an arsenal this is important to know. How many asymmetrical and symmetrical does the bowler want to have.

# Spare Strike Pillars

A bowler who applies these four pillars during a tournament or a league will have success. Knowledge of the sport is the foundation of the sport itself. The physical game is also important because the bowler has twenty percent of the lane in which he or she will execute every frame. Lane play is a factor because if the bowler can read their ball on the lane, they will know what adjustments are needed. Ball dynamics are essential to the bowler. The bowler and the pro-shop operator must be on the same page. This will give the bowler a leg up on their competition. These four pillars properly followed can maximize a bowler's game. Bowlers, coaches, and pro-shop operators should have a high degree of understanding of these pillars to be successful on and off the lane.

## Greatest Minds of Bowling

These individuals have studied the game with great detail. This cannot be stressed enough. The Bowlology spare strike pillars are the essentials of the game to become one of the greatest minds of bowling. All of these individuals know these four key areas of the sport. Some of these leaders have contributed to the USBC coaching manuals for the Bronze, Silver and Gold certifications. The second bowler that completed the Triple Crown was Johnny Petraglia. Parker Bohn III has made the statement about Johnny being the smartest person in bowling. Brunswick named a ball after him. Glenn Allison said that Bill Taylor was the smartest person in bowling. These individuals have studied the sport and have made bowlers bowl better. David Ozio talked with Bill Taylor one day. The next day, Ozio went to the bowling center and thought about what he and Bill had discussed. He sat down at the settee area and he came to the realization with what Bill had said totally made perfect sense. Bill Taylor was not a big fan of the new bowling ball technology. However, during the late 70s, he wrote a book entitled **Balance**. The book described how bowlers could drill balls like they do today. He also explained ball reaction in this book. Taylor also came up with the idea of the oil-less lane.

## Bowling Innovations

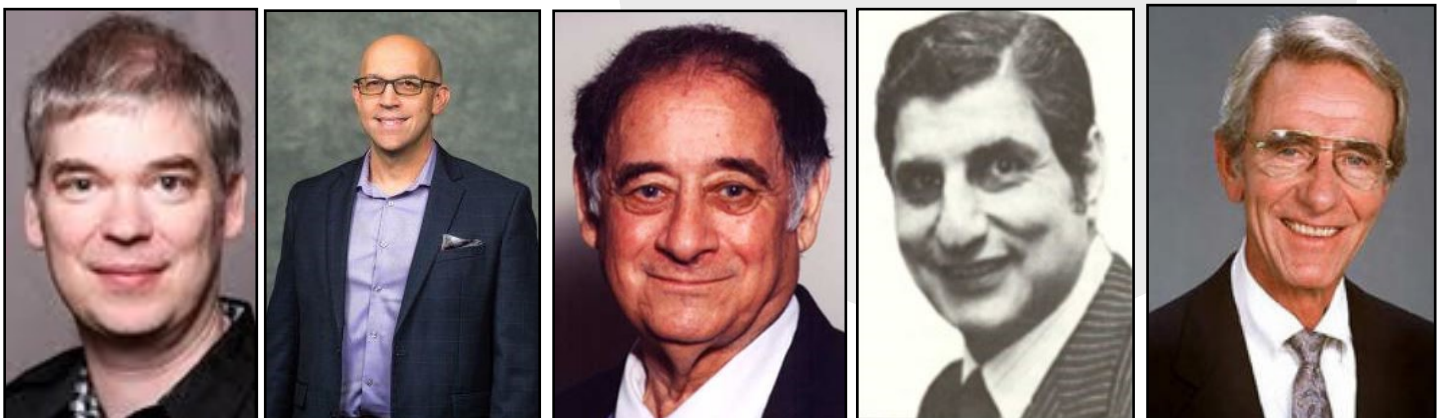
Back in the 1800s, bowlers yearned for more hook out of their ball. Balls were made out of wood back then. To get more hook, they would actually cut the ball in half and put a block of wood (referred to as the "DoDo") in the ball. These balls would hook more resulting in bowlers shooting higher scores. They would invent a dodo scale to find the counterfeit balls that bowlers tried to sneak in. In 1903, they would outlaw the DoDo ball. In 1973, Don McCune would soak his ball in MEK. This would make the ball hook more on the lane. He would win six PBA Tour Titles to become the Player of the Year. McCune revolutionized the game of bowling. Mark Roth and Marshall Holman created the modern power game. Roth & Holman were the first ones to hook the entire lane with the Columbia 300 Yellow Dot. Roth would go straight and hard at the spares. It was a different game back in the 70s. It is getting to be less of a challenge for a bowler to struggle. Bowlers still have to make a delivery on the lane. The ball is not striking on its own. Bowlers today want to drill up the same layout that Jason Belmonte used at the 2020 U.S. Open. This layout may not work out for Joe Bowler because he does not throw the ball like Belmonte. It is important that pro-shop operators & coaches work together to help the Joe Bowlers understand what is needed to attack the lane in order to win a Mega buck scratch tournament or to cash in a PBA Regional Tournament. Joe Bowler may have the same ball that Belmonte used to win his first U.S. Open title; however, it may not be drilled the same way. The coach and the pro-shop operator need to stress to Joe Bowler that he does not need the same layout as Belmonte. Jason Belmonte has revolutionized the sport of bowling, most notably the two-handed ball release. Winning 13 majors on the PBA Tour and becoming the second player to complete the Super Slam is an amazing feat in and of itself. All of these are examples of bowling innovations that applied throughout the history of the sport. Bowlers always want to strike as much as they possibly can. The U.S. Open is the ultimate test of a bowler's skill. In 1958, Eddie Elias founded the PBA which enabled bowlers to make a living by throwing a bowling ball.



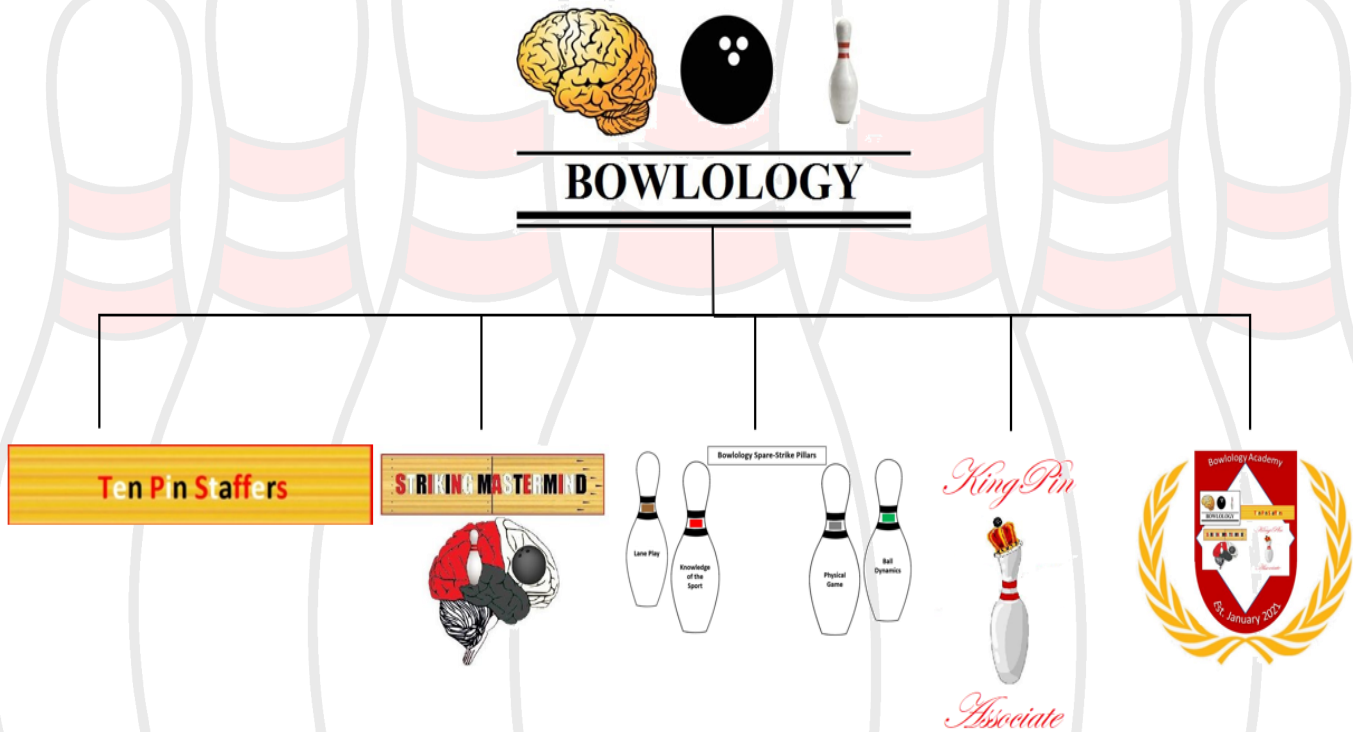
# PBA Pinnacle of Bowling

The Pinnacle of Bowling is the PBA. Earl Anthony, Dick Weber, Don Carter, Walter Ray Williams, Jr., Pete Weber, Jason Belmonte, and EJ Tackett are the elite group of the greatest players in the history of the PBA. Along with many others the PBA has five majors tournaments. These tournaments are as follows. The PBA World Championship the U.S. Open, the Tournament of Champions, The USBC Masters, and the PBA Players Championship, Norm Duke, Johnny Petraglia, Billy Hardwick, Chris Barnes, Pete Weber, Mike Aulby are the only players to complete the Triple Crown. In 2013 Pete Weber became the first bowler to complete the Triple Crown twice when he won the Tournament of Champions. These five majors are difficult to score on because of the challenging lane conditions that have less margin of error than a normal PBA tournament. In 2008 the PBA celebrated 50 years of the PBA. Earl Anthony was voted the greatest bowler in the history of the PBA. Ten years later for the 60<sup>th</sup> anniversary the PBA would come up with 60 greatest moments in PBA History. Don Johnson would have the all-time greatest moments in the 1970 Tournament of Champions by shooting a 299 in the championship game. In 1975 the PBA would have the inaugural PBA Hall of Fame. Dick Weber, Don Carter, and Carmen Salvino would be the first PBA Hall of Famers to get inducted into the hall of fame.

Chris Schenkel, Eddie Elias, and Dick Weber were the forefathers at the PBA founding.



# Bowlology Organizational Chart



Bowlology was established in 2011 as a column in the Josh Hyde Bowling Newsletter. The first topic was on the perfect strike. The founder of Bowlology, Josh Hyde, wanted to share his knowledge about the sport of bowling. This organizational chart is made up of coaches, bowlers, and pro shop operators that love the sport of bowling. In each area, Bowlology is striving to teach bowlers more about the sport they compete in. Josh Hyde noticed that few bowlers were aware of the fundamentals of the sport. The Ten Pin Staffers and pro-shop operators know the dynamics of the bowling ball and the physical game. Striking Mastermind is for bowlers who compete at tournaments. Ten Pin Staffers, Striking Mastermind and the Spare Strike Pillars are all under the Bowlology umbrella. Authors and/or coaches like Mike Shady, Kim Terrell-Kearney, Fred Borden, Mark Baker, Del Ballard, Jr. and Mo Pinel have been highly influential in bowling instruction. For those people that are interested, they can email Josh Hyde at [joshhydeb bowling@gmail.com](mailto:joshhydeb bowling@gmail.com) for more information.

# Bowlology Fact Sheet



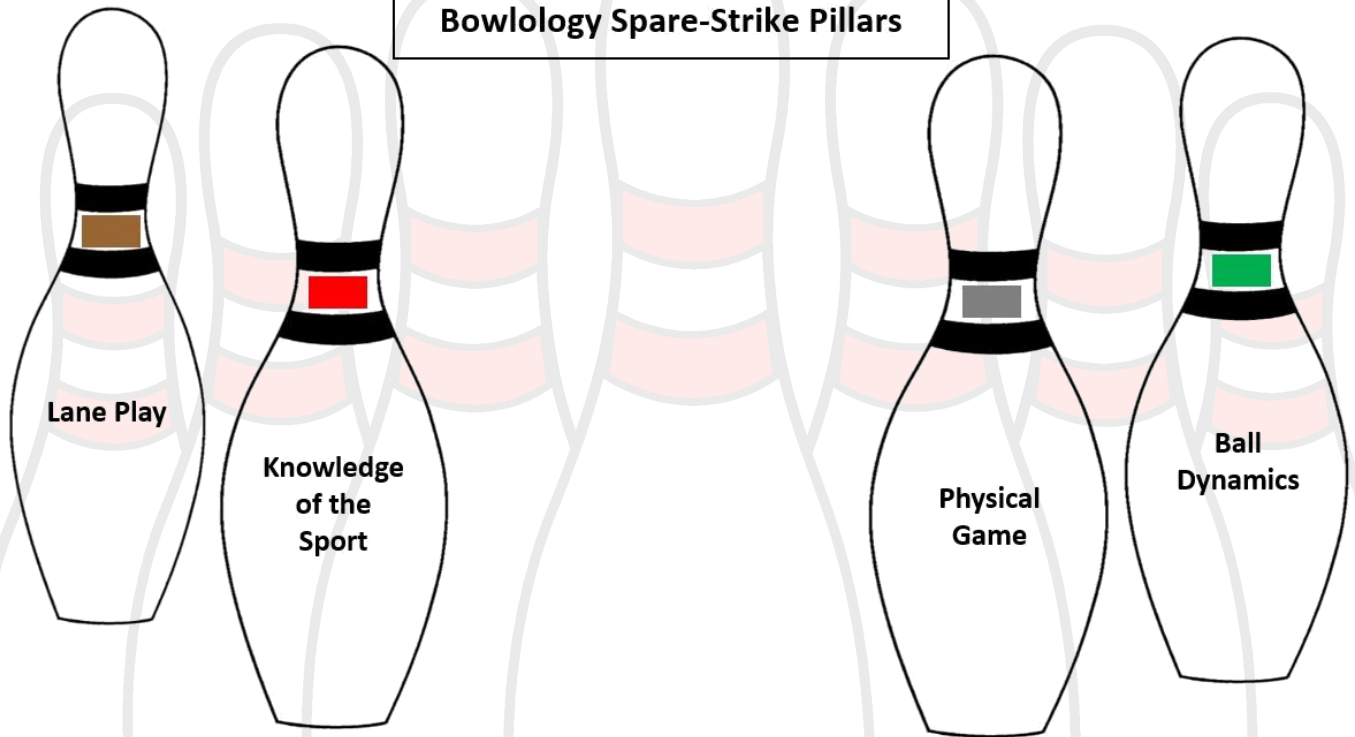
1895 The ABC was founded currently known as the USBC.  
1913 Bowler's Journal was founded.  
1913 the Dodo Ball was outlawed.  
1916, the WIBC was founded  
1932 Bowling was an exhibition sport in the Olympics.  
1932 the BPAA was founded by a few bowling proprietors.  
1936 the first mechanical pin setter was invented by AMF.  
1941 The ABC currently known as the USBC founded the ABC Hall of Fame.  
1941 John Crimmons won the first BPAA All-Star tournament now known as the US Open  
1951 Lee Jougard would win the first Master's Tournament.  
1957 Dick Hoover became the first player to win successfully defend his Masters Title.  
1958 Eddie Elias founded the PBA.  
1958 the Budweiser Team shot a team record of 3858 the team was consisted of Ray Bluth, Don Carter, Dick Weber, Tom Hennessey, and Pat Patterson  
1959 Lou Campi won the first PBA Tournament.  
1962 ABC broadcasted their first PBA telecast.  
1964 Don Carter became the first bowler & athlete to sign a seven-figure deal with Ebonite.  
1966- 1970 Don Johnson made the Championship Round at the Tournament of Champions.  
1967 Jack Biondolillo rolled the first televised 300 at the Tournament of Champions.  
1969 at the BPAA All-Star currently known as the US Open Billy Hardwick became the first player to complete the Triple Crown.  
1969 the PBA created the Regional Program giving high level amateur bowlers the chance at professional level competition of the PBA.  
1970 Don Johnson had a 299 game to win the Tournament of Champions  
1973 Don McCune won six titles by soaking his ball in MEK.  
1973 Jim Godman became the first player to win multiple Tournament of Champions.  
1976 Marshall Holman became the youngest bowler to win the Tournament of Champions.  
1978 Mark Roth won eight titles on the PBA Tour.  
1979 George Pappas led the Tournament of Champions wire to wire.  
1979 Nelson Burton Jr wins the Doubles and All Events in the USBC Open Championship.  
1980 Mark Roth made a 7-10 split on national television.  
1981 the PBA50 Tour was founded these bowlers could not the bowl on the regular PBA Tour in their earlier years. It allowed those guys to compete with Dick Weber, Carmen Salvino, and Harry Smith  
1982 Glenn Allison shot 900.  
1983 Earl Anthony became the first millionaire at the PBA National Championship.  
1983 Norm Duke became the youngest player to win a PBA Title.  
1984 Mike Durbin became the first bowler to win three Tournaments of Champions.  
1984 The Bowling Hall of Fame was opened.  
1987 Pete Weber became the fastest bowler to win ten titles at the Tournament of Champions.  
1988 Bob Benoit was the first bowler to bowl a perfect game in the Championship Match.  
1990 At the Fall Classic in Milwaukee, Wisconsin the United States Bowling Congress finally sanctioned PBA Tournaments.  
1991 Del Ballard, Jr rolled a gutter ball on the final ball to lose the title to Pete Weber at the Fair Lanes Open.  
1992 Dick Weber became the first player to win titles in five different decades.  
1993 Wichita Open Mike Aulby and David Ozio would set the highest scoring match on National Television.  
1993 George Branham III became the first African American to win a major at the Tournament of Champions.  
1993 Phil Ware would win the first ABC Senior Masters  
1994 PBA National Championship Johnny Petraglia would earn \$100,000 on National Television.  
1995 ABC currently known as USBC celebrated their 100th anniversary.  
1995 John Handegard became the oldest bowler to win a PBA Tour Title.  
1995 Mike Aulby would become the fourth player to complete the Triple Crown and Grand Slam.  
1995 The National Bowling Stadium opened.  
1996 After a hiatus both the Men's & Women's U.S Open were conducted simultaneously  
1996 Bob Learn, Jr shot a four-game record of 1129 averaging 282.25 for his four games.  
1996 Dave Husted became the first bowler to successfully defend the U.S. Open.  
1996 Mike Aulby became the first bowler all five majors at the Bayer-Brunswick Touring Players Championship.  
1996 The Top Five averaged 276.37 in the Flagship Open.  
1997 Amleto Monacelli became the first international bowler to enter the PBA Hall of Fame.



# **Bowlology Fact Sheet—Cont'd**

1997 Jeremy Sonnenfeld rolled the first sanctioned 900.  
1997 Walter Ray Williams, Jr would become the first bowler to earn two million dollars in career earnings.  
1998 Mike Aulby would become the first bowler to win the USBC Masters three times.  
1998 PBA Founder Eddie Elias passed away.  
1999 Eric Forkel would win the very first outdoor tournament in Bryant Park.  
2000 Chris Peters a former Microsoft Executive purchased the PBA.  
90's to the 2000's Walter Ray Williams, Jr was voted the bowler of the decade for two straight decades.  
2000 Jason Couch became the first player to defend his TOC title at the Brunswick World Tournament of Champions.  
2000-2001 Jeff Carter set the all-time high average for one season of 261.7.  
2001 Carolyn Dorin-Ballard won a record seven titles on the PWBA Tour.  
2001 Joe Norris & Earl Anthony passed away.  
2002 Jason Couch became the first player in PBA History to win three TOC in a row.  
2002-2003 Walter Ray Williams, Jr won two majors while earning \$300,000 on the PBA Tour.  
2003 The PWBA had to shut down due to financial hardship.  
2004 the USBC Open Championship turned 100 years old.  
2004 Danny Wisemen shot 289 at the USBC Masters in Milwaukee Brewers Stadium.  
2005 the Bowling World lost two icons Dick Weber & Chris Schenkel  
2006 at the PBA World Championship Walter Ray Williams Jr tied Earl Anthony with 41 titles beating Pete Weber.  
2008 Earl Anthony was voted the greatest player in PBA History.  
2008 Norm Duke also won the three majors in a single year because it was not in the same season. It did not count as three majors in a single season.  
2008 the PBA recognized the USBC Masters and the BPAA All-Star as PBA Titles.  
2009 Jason Belmonte became the first bowler to win with two hands.  
2009 PBA introduced the World Series Of Bowling Tournament in Allen Park, Michigan.  
2009 Tom Smallwood went from unemployment to PBA World Champion.  
2009-2010 Walter Ray Williams, Jr would become the first bowler to earn PBA Player of the Year in three different decades.  
2010 Kelly Kulick became the first woman to win a major at the Tournament of Champions.  
2011 The Tournament of Champions had a one-million-dollar purse with \$250,000 going to the winner.  
2011 In the Semi-Finals of the Tournament of Champions Mika Koivieumi & Tom Daugherty would set most margins by 299 to 100.  
2011 Sean Rash made all the Animal pattern Championships at the World Series of Bowling  
2012 Johnny Petraglia became the first PBA Player to win titles in six different decades.  
2012 Pete Weber won his fifth US Open.  
2013 Pete Weber became the only player to complete the Triple Crown at the Tournament of Champions  
2015 Jason Belmonte became the first bowler to three-peat the USBC Masters.  
2015 Jason Belmonte became the second bowler defend his Tournament of Champions Title.  
2015 Sean Rash became the first bowler to roll two perfect games on National Television at the Tournament of Champions.  
2016 Anthony Simonson became the youngest player on the PBA Tour to win at the USBC Masters.  
2016 Francois Lavoie became the first player to bowl a 300 in the championship round at the U.S. Open.  
2016 Jesper Svensson became the youngest bowler to win Tournament of Champions.  
2017 Walter Ray Williams Jr would win his 100 PBA Title in a PBA Regional.  
2017 Jason Belmonte became the first player to win three majors in a single season on the PBA Tour.  
2017 Liz Johnson became the second women to win a PBA Title at the World Series of Bowling.  
2017 Jason Belmonte became the first player to win four USBC Masters Titles.  
2019 USBC Women's Open Championship it turned 100 years old.  
2019 Brunswick merged with Ebonite, they now own Columbia 300, Track, Hammer, and PowerHouse along with Ultimate & Radical & DV8 Products.  
2020 In the month of August the USBC outlawed weight holes.  
2020 Jason Belmonte would join Mike Aulby as the only two players all five majors by winning the U.S. Open.  
\*\*Tommy Jones, Chris Barnes, Mike Aulby, Jason Belmonte and EJ Tackett are the only five players to earn Player of the Year & Rookie of the Year Honors.

## Bowlology Spare-Strike Pillars



When Bowlology was founded in November of 2011, the Josh Hyde's Bowling Newsletter wanted to give bowlers some knowledge of the sport. These spare- strike pillars are essential to Bowlology in that they are the four pillars that a Bowlologist will need in order to help bowlers, coaches and pro-shop operators.

--The First Pillar is Knowledge of the Sport which involves split making, makeable splits, lane courtesy, the perfect strike, score-keeping, playing field, pin knowledge, pin carry, and general bowling knowledge.

--The Second Pillar is the Physical Game. If a bowler does not have a solid foundation, he or she is not going to be able to execute in every frame. Timing puts away the trail leg, the finish position and the arm swing. These are the main attributes of a bowler's physical game.

--The Third Pillar is Lane Play which is how the bowler plays the lanes making hand position and speed adjustments. In most sports, the athletes are not going to have to worry about the surface of the field. However, in bowling, bowlers do have to know what the lanes are doing in order to be a contender in a league match. The same holds true when Jason Belmonte needs a strike to win the U.S Open. Lane play is a big portion of a bowler's game.

--The Final Pillar is Ball Dynamics. This is where the bowler and the pro-shop operator need to be on the same page. Each bowler is different. If a pro bowler wins a Major and Joe Bowler wants to use the same ball with the same layout and surface, more than likely Joe Bowler will not have the same results as the pro bowler due to differences in their game. They may use the same ball except with a different layout and surface. This is why it is so important for the pro-shop operator to know Joe Bowler's game. Pro-shop operators generally know the dynamics of the bowling ball. Ideally, the bowler needs to find a pro-shop operator that has some coaching experience. If he/she has a pro-shop operator and a coach, all three need to come up with a game plan so that the bowler can be successful on the lanes.

These four Bowlology Spare-Strike Pillars will enable bowlers, coaches and pro-shop operators to identify bowling knowledge.

# Bowlologist Problem-Solving Chart

<u>Open</u>	<u>Spare</u>	<u>Strike</u>
Bowler falls off balance at the foul line	Physical Game	Frame 2
Bowler cannot identify his PAP	Ball Dynamics	Frame 3
Bowler is muscling the ball	Physical Game	Frame 2
Bowler is not choosing the right ball	Lane Play and/or Ball Dynamics	Frames 3 thru 5
Bowler misses spares	Knowledge of the Sport	Frame 1
Bowler is not using the correct surface on the ball	Ball Dynamics	Frame 3 & 5
Bowler is not reading the lanes right	Lane Play	Frame 4
Bowler is using the wrong layout	Ball Dynamics	Frame 3
Bowler is playing in the wrong area on the lane	Lane Play	Frame 4
Bowler is leaving the ten pin and is unable to string strikes	Lane Play	Frame 4
Bowler fails to acknowledge bowlers on adjacent lanes	Knowledge of the Sport	Frame 1
Bowler stands in the same spot every frame and does not adjust	Lane Play	Frame 4
Bowler bowls well on specific pattern but has trouble bowling on other patterns	Lane Play	Frame 4
Bowler misses double wood spares	Knowledge of the Sport	Frame 1

This chart is for Bowlologists to use as a reference to help other bowlers.

The "Open" represents the problem.

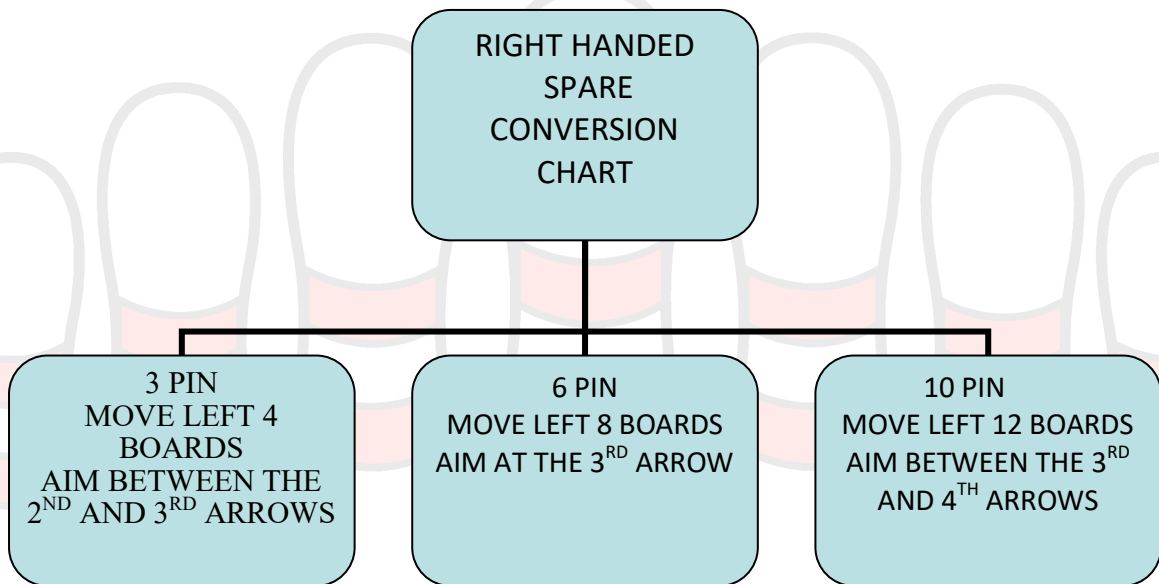
The "Spare" represents the four key areas - Knowledge of the Sport, Physical Game, Ball Dynamics and Lane Play.

The "Strike" refers to the specific frame(s) in the Bowlology book.

Bowlers must practice in order to advance their game to the next level. The chart above is of course not a substitute for practicing on the lanes. Bowlers must have always practice to improve their game and maintain their skills. Also remember going hard and straight at spares is the ideal way to convert spares and it will alleviate the pattern of whiffing the spare. Bowlers do not want to do this especially opening up with a double. If a bowler goes double ten pin and makes the spare his/her maximum score is 279. However if they miss the spare. Then they can only max out at a 267 making that spare can add 12 pins at the end of the game.

**\*\*\*PRACTICE\*\*\***  
**Shooting Spares & Strikes**





REMEMBER- BOWLERS NEED TO OPEN THEIR BODY SLIGHTY TO THE TARGET.

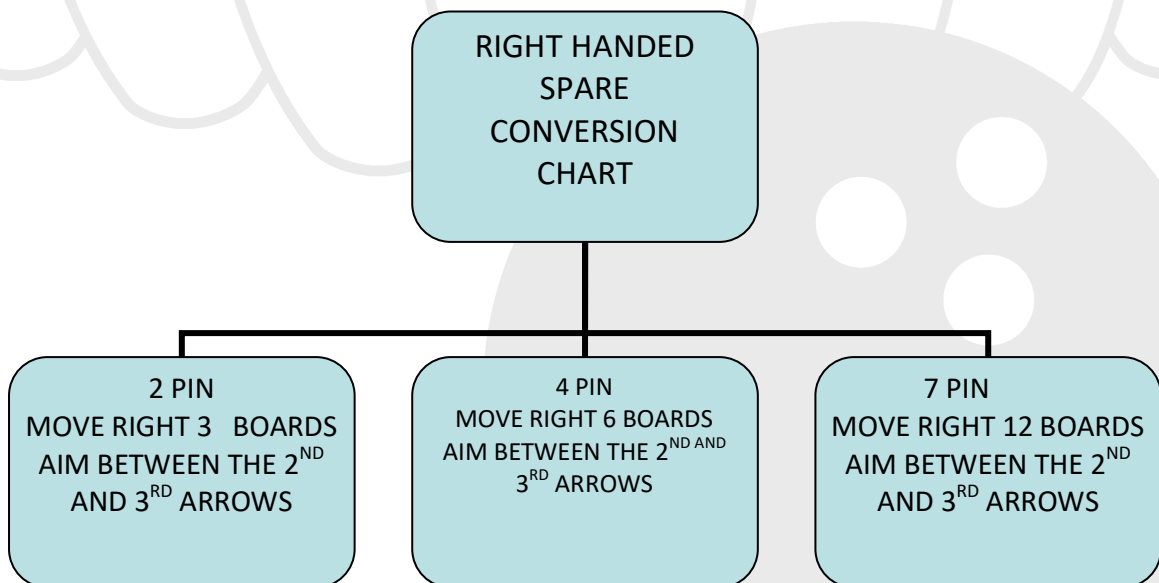
#### HEADPIN & 5 PIN SPARES

IF A BOWLER LEAVES THE HEADPIN- NO ADJUSTMENT IS NEEDED- THEY CAN USE THEIR STRIKE SHOT.

IF A BOWLER LEAVES THE 5 PIN- NO ADJUSTMENT IS NEEDED- THEY CAN USE THEIR STRIKE SHOT.

STRAIGHTER IS GREATER- GOING HARD AND STRAIGHT AT SPARES HAS A HIGHER PERCENTAGE RATE THAN HOOKING AT SPARES.

EQUIPMENT NEEDED- PLASTIC BALL- PLASTIC BALLS TEND TO GO MUCH STRAIGHTER THAN THE HIGH-TECH BALLS OF TODAY.



REMEMBER- BOWLERS NEED TO OPEN THEIR BODY SLIGHTY TO THE TARGET.



## LEFT HANDED SPARE CONVERSION CHART

2 PIN  
MOVE RIGHT 4 BOARDS  
AIM BETWEEN THE 2<sup>ND</sup>  
AND 3<sup>RD</sup> ARROWS

4 PIN  
MOVE RIGHT 8 BOARDS  
AIM AT THE 3<sup>RD</sup> ARROW

7 PIN  
MOVE RIGHT 12 BOARDS  
AIM BETWEEN THE 3<sup>RD</sup>  
AND 4<sup>TH</sup> ARROWS

REMEMBER- BOWLERS NEED TO CLOSE THEIR BODY SLIGHTLY TO THE TARGET.

### HEADPIN & 5 PIN SPARES

IF A BOWLER LEAVES THE HEADPIN- NO ADJUSTMENT IS NEEDED- THEY CAN USE THEIR STRIKE SHOT.

IF A BOWLER LEAVES THE 5 PIN- NO ADJUSTMENT IS NEEDED- THEY CAN USE THEIR STRIKE SHOT.

STRAIGHTER IS GREATER- GOING HARD AND STRAIGHT AT SPARES HAS A HIGHER PERCENTAGE RATE THAN HOOKING AT SPARES.

EQUIPMENT NEEDED- PLASTIC BALL- PLASTIC BALLS TEND TO GO MUCH STRAIGHTER THAN THE HIGH-TECH BALLS OF TODAY.

## LEFT HANDED SPARE CONVERSION CHART

3 PIN  
MOVE LEFT 3 BOARDS  
AIM BETWEEN THE 2<sup>ND</sup>  
AND 3<sup>RD</sup> ARROWS

6 PIN  
MOVE LEFT 6 BOARDS  
AIM BETWEEN THE 2<sup>ND</sup>  
AND 3<sup>RD</sup> ARROWS

10 PIN  
MOVE LEFT 12 BOARDS  
AIM BETWEEN THE 2<sup>ND</sup>  
AND 3<sup>RD</sup> ARROWS

REMEMBER- BOWLERS NEED TO OPEN THEIR BODY SLIGHTLY TO THE TARGET.

## 21 MULTIPLE COMMON/MAKEABLE SPARES

Left Hand		
Spare	Move	Target
3-5-6	3 Boards Left	Aim between the 2nd and 3rd arrow
1-3-9	5 Boards Left	Aim between the 2nd and 3rd arrow
3-6-9	3 Boards Left	Aim between the 2nd and 3rd arrow
6-9-10	5 Boards Left	Aim between the 2nd and 3rd arrow
2-4-8	6 Boards Right	Aim between the 2nd and 3rd arrow
2-4-7	6 Boards Right	Aim between the 2nd and 3rd arrow
4-7-8	8 Boards Right	Aim between the 2nd and 3rd arrow
1-5	Strike Shot	Aim between the 2nd and 3rd arrow
3-6	5 Boards Left	Aim between the 2nd and 3rd arrow
3-9	3 Boards Left	Aim between the 2nd and 3rd arrow
2-4	3 Boards Right	Aim between the 2nd and 3rd arrow
6-10	8 Boards Left	Aim between the 2nd and 3rd arrow
6-9	6 Boards Left	Aim between the 2nd and 3rd arrow
5-9	1 Board Left	Aim between the 2nd and 3rd arrow
5-8	Strike Shot	Aim between the 2nd and 3rd arrow
4-7	10 Boards Right	Aim between the 2nd and 3rd arrow
1-3-5-6	5 Boards Left	Aim between the 2nd and 3rd arrow
1-3-6-10	5 Boards Left	Aim between the 2nd and 3rd arrow
1-3-6-9	5 Boards Left	Aim between the 2nd and 3rd arrow
3-5-6-9	6 Boards Left	Aim between the 2nd and 3rd arrow
2-4-7-8	6 Boards Right	Aim between the 2nd and 3rd arrow

Right Hand		
Spare	Move	Target
2-4-5	6 Boards Right	Aim between the 2nd and 3rd arrow
1-2-8	2 Boards Right	Aim between the 2nd and 3rd arrow
2-4-8	3 Boards Right	Aim between the 2nd and 3rd arrow
4-7-8	7 Boards Right	Aim between the 2nd and 3rd arrow
3-6-9	6 Boards Left	Aim between the 2nd and 3rd arrow
3-6-10	6 Boards Left	Aim between the 2nd and 3rd arrow
6-9-10	7 Boards Left	Aim between the 2nd and 3rd arrow
1-5	Strike Shot	Aim between the 2nd and 3rd arrow
2-4	5 Boards Right	Aim between the 2nd and 3rd arrow
2-8	3 Boards Right	Aim between the 2nd and 3rd arrow
3-6	6 Boards Left	Aim between the 2nd and 3rd arrow
4-7	8 Boards Right	Aim between the 2nd and 3rd arrow
4-8	6 Boards Right	Aim between the 2nd and 3rd arrow
5-8	1 Board Right	Aim between the 2nd and 3rd arrow
5-9	Strike Shot	Aim between the 2nd and 3rd arrow
6-10	10 Boards Left	Aim between the 2nd and 3rd arrow
1-2-4-5	4 Boards Right	Aim between the 2nd and 3rd arrow
1-2-4-7	4 Boards Right	Aim between the 2nd and 3rd arrow
1-2-4-8	4 Boards Right	Aim between the 2nd and 3rd arrow
2-4-5-8	6 Boards Right	Aim between the 2nd and 3rd arrow
3-6-9-10	6 Boards Left	Aim between the 2nd and 3rd arrow

**REMEMBER- IT IS BETTER TO TAKE AS MANY PINS OUT AS POSSIBLE WITH THE BALL RATHER THAN SOLELY RELYING ON PIN ACTION.**



MAKEABLE SPLITS			
SPLIT	Move	RH-LH	Target
2-4-7-10	6 Boards Left	LH	Aim between the 2nd and 3rd arrow
3-6-7-10	6 Boards Left	RH	Aim between the 2nd and 3rd arrow
2-4-10	6 Boards Left	LH	Aim between the 2nd and 3rd arrow
1-3-4-6-7-9	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
4-7-9	10 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-8-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-4-8-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-4-6-8-10	5 Boards Left	RH	Aim between the 2nd and 3rd arrow
5-7-9	Strike Shot	RH	Aim between the 2nd and 3rd arrow
5-8-10	Strike Shot	LH	Aim between the 2nd and 3rd arrow
1-3-4-5-6-7	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
6-8-10	10 Boards Left	LH	Aim between the 2nd and 3rd arrow
3-6-7	6 Boards Left	RH	Aim between the 2nd and 3rd arrow
2-7	6 Boards Right	LH	Aim between the 2nd and 3rd arrow
9-10	6 Boards Left	RH-LH	Aim between the 2nd and 3rd arrow
7-8	8 Boards Right	RH-LH	Aim between the 2nd and 3rd arrow
5-10	Strike Shot	LH	Aim between the 2nd and 3rd arrow
5-7	Strike Shot	RH	Aim between the 2nd and 3rd arrow
3-10	6 Boards Left	RH	Aim between the 2nd and 3rd arrow
3-9-10	6 Boards Left	RH	Aim between the 2nd and 3rd arrow
2-7	6 Boards Right	LH	Aim between the 2nd and 3rd arrow
2-7-8	6 Boards Right	LH	Aim between the 2nd and 3rd arrow
1-2-4-10	6 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-4-6-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-3-6-7	6 Boards Left	LH	Aim between the 2nd and 3rd arrow
1-3-4-6-7	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
4-7-10	10 Boards Right	RH-LH	Aim between the 2nd and 3rd arrow
4-5	3 Boards Right	RH-LH	Aim between the 2nd and 3rd arrow
6-7-10	10 Boards Left	RH-LH	Aim between the 2nd and 3rd arrow
5-6	3 Boards Left	RH-LH	Aim between the 2nd and 3rd arrow
4-9	10 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-4-5-6-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
8-9	Strike Shot	RH-LH	Aim between the 2nd and 3rd arrow
1-2-4-7-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-4-5-7-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-4-7-8-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-3-5-6-7-10	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
1-3-6-7-9-10	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
1-2-4-6-7-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-3-6-7-10	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
1-3-4-5-6-7-10	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
1-3-6-7-9	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
6-8	10 Boards Left	LH	Aim between the 2nd and 3rd arrow

Remember: it is better to take as many pins out with the ball rather than solely relying on pin action. Split-making: the smallest number pin standing will take out either the adjacent or diagonal pins.

HOOKABLE SPARES / SPLITS			
LH/RH	SPARE /SPLIT	ADJUSTMENT	TARGET
RH	2-4-5-7	5 boards right	Same as Strike target
LH	3-5-6-10	5 boards left	Same as Strike target
RH	1-2-4-7-8	3 boards right	Same as Strike target
LH	1-3-6-9-10	3 boards left	Same as Strike target
RH	3-6-10	5-9 boards left	Same as Strike target
LH	2-4-7	5-9 boards right	Same as Strike target
RH	3-6-9-10	5-9 boards left	Same as Strike target
LH	2-4-7-8	5-9 boards right	Same as Strike target
RH	1-2-4-9	1 board right	Same as Strike target
LH	1-3-6-8	1 board left	Same as Strike target
RH	2-4-5-8	3 boards right	Same as Strike target
LH	3-5-6-9	3 boards left	Same as Strike target
RH	1-3-8-9	2-3 boards right	Same as Strike target
LH	1-2-8-9	2-3 boards left	Same as Strike target
RH	2-4-5	3 boards right	Same as Strike target
LH	3-5-6	3 boards left	Same as Strike target
RH	2-4-10	5-6 boards right	Same as Strike target
LH	3-6-7	5-6 boards left	Same as Strike target
RH	4-5-7	3-4 boards right	Same as Strike target
LH	5-6-10	3-4 boards left	Same as Strike target
RH	4-7-9-10	9 boards right	Same as Strike target
LH	6-7-8-10	9 boards left	Same as Strike target
RH	5-7-9	3-5 boards left	Same as Strike target
LH	5-8-10	3-5 boards right	Same as Strike target
RH	1-2-4-10	5 boards right	Same as Strike target
LH	1-3-6-7	5 boards left	Same as Strike target
RH	1-3-6-9	2 boards left	Same as Strike target
LH	1-2-4-8	2 boards right	Same as Strike target
RH / LH	5-8	1-2 boards right	Same as Strike target
LH / RH	5-9	1-2 boards left	Same as Strike target

Remember: Straighter is greater, but if the bowler feels like he/she is better at making the spares or splits by hooking at them, the bowler's margin of error goes down significantly. The smallest number pin standing will take out the diagonal pins if thrown correctly.

# Ten in the Pit - Important Bowling Numbers

## Every Bowlologist Should Know

10	The maximum number of pins a bowler can knock down in one or two shots
10	The number of frames in a single bowling game
10	The number of pins on the lane
15	The number of feet from the back of the approach to the foul line
20	Minimum score per frame that a bowler can obtain for a 200 game
30	The amount of pins that a bowler can achieve in one frame
39	The number of boards on a bowling lane
60	The number of feet from the foul line to the headpin
75	The number of feet from the back of the approach to the headpin
300	The maximum score for a bowling game



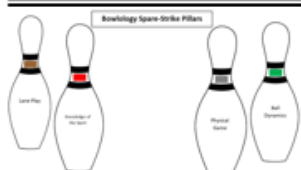
*King Pin*



*Associate*



**BOWLLOGY**



These 10 numbers are important in the sport of bowling. For Bowlologists, these numbers are essential for understanding many critical aspects of the sport. Knowing these numbers allows a bowler to achieve the level of a Bowlologist. A Bowlologist should always be able to recall these numbers. This chart is called "Ten in the Pit" to signify that by knowing these numbers, you are assured of a "strike" (having a high level of knowledge about the sport of bowling - a Bowlologist).

### ← The Bowlology Zones

This picture illustrates the five zones that make up Bowlology:

- Spare-Strike Pillars
- Bowlology
- Ten Pin Staffers
- Striking Mastermind
- King Pin Associate
- Bowlology Academy



# Bowler Inventory Guide

Balls	Bowler needs one plastic ball for spares, a benchmark ball, a ball that gives a bowler a feel for the lane conditions and three more balls with different layouts and surfaces.
Tape	Texture to put on bowlers hands and or finger or thumbhole.
Wrist support	To keep a bowlers wrist in the proper position.
Glue	To re-glue the bowler's finger & thumb inserts.
Finger & Thumb inserts	If a bowler has a Switch Grip by Turbo and Interchangeable Thumb by Vise.
Shammy	To make sure all the oil gets off the ball each time the ball is thrown.
Soles & Heels	A bowler needs spares of these to be able to adjust the different approaches.
Abalon Pads	A low number on the pad, i.e. 500, will give the ball more traction and make it hook earlier. A high number on the pad, i.e. 3000, will make the ball smooth and reduce friction and make it hook later. The bowler must adjust the surface before competition starts. Once the ball is thrown for competition, bowlers cannot adjust the surface for the ball.
Shoes	One pair of good custom bowling shoes for the bowler.
Bags	Two 3 ball rollers and one tournament tote bag
Ball Cleaner	When a bowler get to the lanes. They should clean their balls before throwing practice balls.
Grip sack (Rosin bag)	A bowler can have a grip sack or rosin bag. This aids in keeping the hand dry and removes sweat.
Small Notebook	This comes in handy for a bowler to take notes on many things during competition. For example, if a bowler finds a pair they struggled on earlier, they can look back and make adjustments to figure out how to hit that pair of lanes better.
Extra Shoestrings	Quick replacement of broken shoestrings as a bowler cannot keep their balance on the approach with loose shoes.
Ball Cups	1 to 3 cups. To hold the bowler's ball after they clean or resurface ball so they do not roll away.
Shoe Brush	To clean off the bottom of their shoes to wipe off debris excess oil, etc.

# Bowling Resources

## Books

Bowling: How To Master The Game by Parker Bohn III  
Bowling Knowledge is the Key by Fred Borden  
Game Changer by Mark Baker  
Bowlology by Josh Hyde  
Revolutions I & II by Chip Zleke  
Beyond the Basics by Ron Hatfield  
Par Bowling: Progressive method of bowling instruction  
Bowling Execution by John Jowdy  
Balance by Bill Taylor  
From Gutterballs to Strikes by Mike Durbin  
How to Pick Up Spares by Michelle Mullen  
Bowling for Dummies by A.J. Forrest and Lisa Iannucci  
Fifty Greatest Bowlers in PBA History  
Stone 8 by Len Nicholson  
Bowling Fundamentals by Michelle Mullen

## Magazines & Newsletters

Bowlers Journal International  
Josh Hyde's Bowling Newsletter  
Bowling This Month

## DVD's

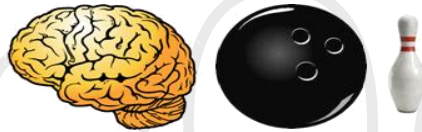
Learn to Bowl Competitively: Bowling Lessons From the Legend by Norm Duke  
The System by Mark Baker featuring Chris Barnes, Tommy Jones, Lynda Barnes, Barry Asher  
Becoming a Better Bowler with Walter Ray Williams Jr  
Beyond the Bowling Basics featuring Parker Bohn III and Brad Angelo  
Bowling Lessons from the Pros

## Coaching & Training Centers

Kegel Training Center  
International Training & Research Center  
Bowling IQ

## Bowling Manufacturers

Brunswick—Ebonite—Columbia 300—DV8—Track—Hammer—Radical  
Motiv  
Storm— Roto Grip— Global 900  
Dexter  
Big Bowling  
Vise Grips  
Turbo



## **BOWLOLOGY**

This exam is for the beginner

1. How many pins does the ball hit in a perfect strike?
2. In timing what does the first and second # mean?
3. Name 3 out of 7 mistakes bowlers could get into?
4. How does a right hander read the lanes?
  - A. Right to Left
  - B. Left to Right
  - C. Side to Side
5. How does a left hander read the lanes?
  - A. Right to Left
  - B. Left to Right
  - C. Side to Side
6. How does a bowler score a strike?
7. How does a bowler score a spare?
8. How does a bowler score an open?
9. True or False? If a bowler marks in the Tenth Frame they at least get one extra ball.
10. Score Frame 1-3

9	/		x	7	2

11. In a bowler's spare game what is the best piece of equipment they can have
  - A. Resin Reactive Ball
  - B. Particle Ball
  - C. Plastic Ball
12. A right hander leaves the Ten Pin. How many boards do they need to move and what way?
13. If a bowler leaves a 6-10 spare how many boards and what way?
14. Is it better to throw a straight or a hook at a spare why?
15. In a proper release the thumb will exit the ball first. True or False?
16. Bonus Question: What is perfect game?



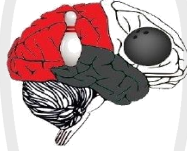
## Ten Pin Staffers

### Short Questions:

1. Name the three phases of ball motion.
2. If the lanes are slick, is it better to use a sanded ball or a polished ball? Why?
3. If the lanes are dry, is it better to use a sanded or a polished ball? Why?
4. Using the rule of 31, the length of the pattern is 40 feet. What is the break point?
5. What is "High RG" and "Low RG"?
6. What is "PAP"? What is a flat pattern?
7. What is "VAL"?
8. What is a flat pattern?
9. Is it better to go straight or hook the ball at single pin spare?
10. What does 2 and 1 mean, in reference to a bowler's technique adjustment?

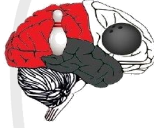
### Essay Questions:

1. A bowler is having difficulty getting to the pocket. The bowler moves right, and the ball hooks more. The bowler moves left, and the ball hooks less. What should the bowler do?
2. A bowler is 80 over and the cut is 100, with one more game to go, what does he need to shoot in order to make the cut?
3. A bowler goes into the pro shop looking to purchase a ball. Normally, bowlers want to get a ball with the most aggressive hook. How would a Pro Shop operator help make this determination?
4. A bowler is having trouble getting out of the ball. Is this due to too much forward pitch, or too much reverse pitch? How would the bowler best correct this problem?
5. The cut after 5 games was at 130 over. The cut went to 100 over. What happened to reduce the cut and why?



The Striking Mastermind program is for the higher average bowlers that bowl PBA Regional, local scratch tournaments, and “megabuck” tournaments. This quiz will enable a bowler to know more about the game and succeed in tournament play. Each question is worth five points to pass this exam the bowler must get a score of 80 out of 100. It is an exam in that hopefully tests the bowlers knowledge. This program was founded by the Ten-Pin Staffers and Josh Hyde Bowling.

1. If a bowler comes into a pro shop that has an asymmetrical ball the pro shop operator will be able to drill the ball stronger than symmetrical ball.
  - A. True
  - B. False
2. Why is it important to have a good fitting grip in all of your bowling balls?
  - A. To keep the hand in good condition
  - B. To ensure a clean release
  - C. To be able to switch bowling balls without worry
  - D. All of the above
3. In a five step approach to achieve neutral or textbook timing when should the ball and foot begin moving together?
  - A. First step of five
  - B. Second step of five
  - C. Third step of five
4. How can a Pro Shop operator help you improve your bowling ball selections?
  - A. Proper fit
  - B. Drilling layouts
  - C. Coaching
  - D. All of the above
5. Bowlers should know what and how all of their equipment reacts in order to choose the proper ball and surface in competition?
  - A. True
  - B. False
6. What is a flat pattern?
  - A. 12 to 1
  - B. 3 to 1
  - C. 1 to 1
7. If a pattern is longer in length, what type of surface grit does a bowler want on the ball?
  - A. Higher
  - B. Lower
8. Compared to a house pattern, a sport pattern typically has an oil ratio of?
  - A. 4-1 or less
  - B. 2-1 or more
  - C. 3-1 or less



9. What phase of ball motion does the ball need to be in at the backend of the lane in order to have its best chance to strike?
  - A. Roll phase
  - B. Skid phase
  - C. Hook phase
10. What is PAP?
11. When a ball is skidding too far down lane and does not get into the roll phase, what adjustments could you make?
  - A. Change to a ball with a lower surface grit
  - B. Decrease ball speed
  - C. Both A & B
12. If you need the ball to have maximum backend reaction at what degrees should the ball be rotating after the release?
  - A. 0 degrees
  - B. 45 degrees
  - C. 90 degrees
13. When shooting cross lane at a single pin spare conversion, it is better to roll your plastic ball across the lane using 0 degrees rotation so the ball goes straight toward the pin?
  - A. True
  - B. False
14. What is axis rotation
15. What is axis tilt
16. When is it better to hook at a spare, and why?
17. The typical amateur bowler most likely changes balls after the ball does not strike. Why is that not always the best thing?
18. The typical bowler will more than likely go into a pro-shop to get the most hooking ball. Why is this not always a good idea?
19. In a PBA Tournament what is lane courtesy?
20. Why should a bowler learn to tape up their ball.



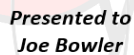
*King Pin*



*Associate*

1. Should Glenn Allison's 900 be recognized by the USBC? Why or Why not?
2. Is today's bowling equipment hurting bowlers? Why or why not?
3. Should the Tournament of Champions come back as a tournament in which only PBA Tour titlists can bowl, rather than including Regional and/or PBA50 Tour titlists. Why or Why not?
4. Who was the greatest bowling coach and why?
5. Should bowlers aim for the PBA or should they try to succeed in a MegaBuck Tournament and stay an amateur player?
6. As of August 1st of 2020, USBC outlaws weight holes. Is this a good idea or not?
7. Is using urethane or resin reactive equipment better for the pros?
8. Rank each of these tournaments using one through five with five being the highest: PBA Players Championship, USBC Masters, U.S. Open, PBA World Championship and Tournament of Champions. Explain the significance of these majors on the PBA Tour.
9. Should bowlers have a house shot average or a league shot average or both in order to join the PBA?
10. Should the U.S. Open be a limited field or have a multitude of bowlers bowling in this tournament?
11. In 2009 the PBA voted Earl Anthony the greatest bowler in the history of the PBA. The second greatest bowler according to the PBA was Walter Ray Williams, Jr. Which one do you think is the # 1 or do you think someone else from 1958 to 2009 should have been nominated? Give an explanation as to your answer.
12. Jason Belmonte and Mike Aulby are the only 2 players to win all Majors on the PBA Tour. Which one was the best?
13. Which was or is the best bowling innovation(s) in the history of the sport? Why?
14. Who had the best bowling form in the history of the sport? Why?
15. Who revolutionized the game the most and why?

These answers are for essay responses rather than for the purpose of receiving a certificate. It is highly recommended that the answers be concise. Bowlers and pro-shop operators can email their answers to Josh Hyde, founder of the Bowler Intelligence Agency, at [joshhydeb bowling@gmail.com](mailto:joshhydeb bowling@gmail.com). They will receive a return email from Josh once he has reviewed and critiqued their answers.



## BOWLOLOGY

*Presented to  
Joe Bowler*

## BOWLOLOGY



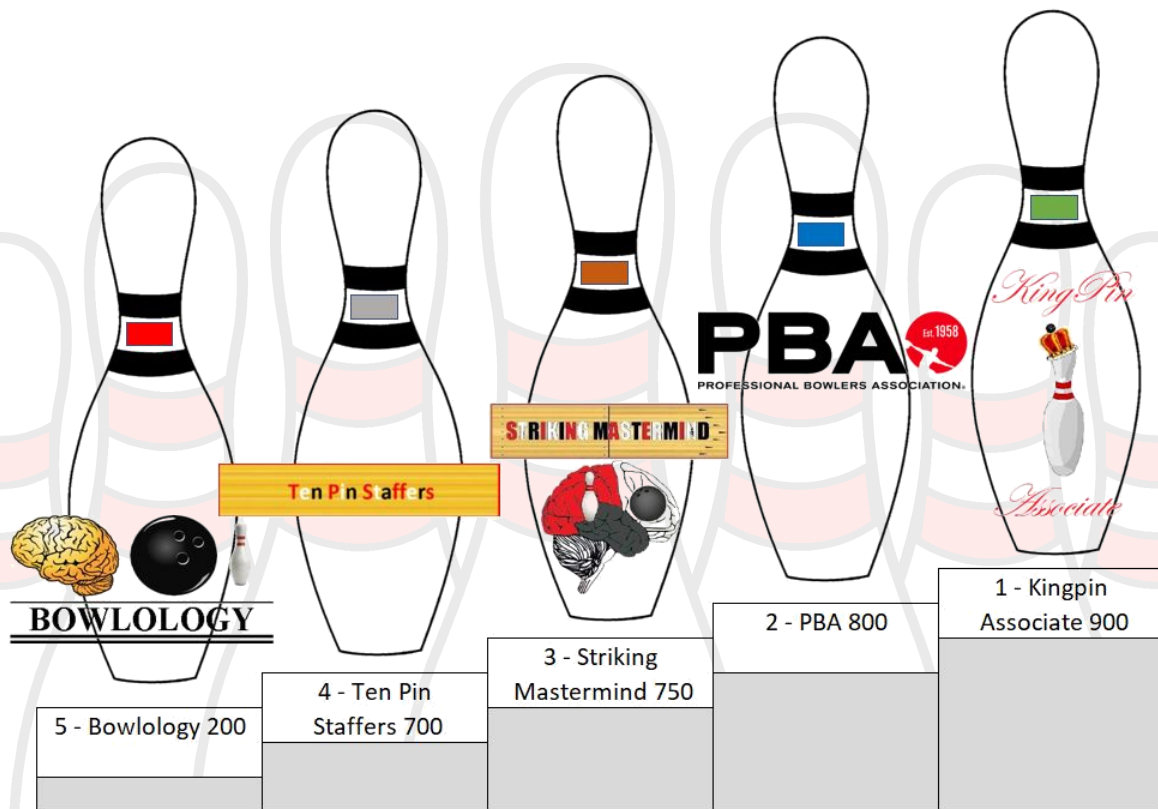
## BOWLOLOGY



*Presented to  
Joe Bowler*



23



**Bowlology 200—** is knowledge of the sport of bowling. Examples are: knowing how to keep score, correctly making spares, lane courtesy, and just basic knowledge of the sport of bowling. Bowlers that are interested in joining Bowlology will receive a certificate once they pass an exam with a score of 80% or better.

**Ten Pin Staffer 700—** is for coaches and pro-shop operators who know the physical game and the dynamics of a bowling ball. In order to become a Ten Pin Staffer, a bowler is required to score 130 out of a possible 150 to pass. These individuals know how to help bowlers improve their game.

**Striking Mastermind 750—** the Striking Mastermind exam is for the tournament bowler that wants to advance their game to the next level. The Striking Mastermind takes a score of 80 out of 100 to pass.

**PBA 800—** the PBA 800 course is designed for the high scratch bowler that might have cashed in a PBA Tournament as an amateur - who had a good shot early in a tournament but fell short the last couple of games. Additionally, bowlers in the class will learn how to conduct themselves as a high-level bowler. This class reviews the non-member orientation meeting more in depth.

**Kingpin Associate 900—** is for those individuals who know a depth of knowledge of the sport of bowling. The greatest bowlers have gone to coaches like Fred Borden, Mark Baker, John Jowdy and Del Ballard, Jr. The Kingpin Associate is for people who know the sport. In addition to knowing how to attack the lanes and bowling ball dynamics. Those who are interested to learn more about this program can email Josh Hyde at [joshhydeb bowling@gmail.com](mailto:joshhydeb bowling@gmail.com).



**Bowlology Academy Presents Becoming a Bowlologist -**  
**A detailed description of the various areas of expertise a Bowlologist**  
**needs and the tools of the trade**

**by**

**Josh Hyde B.L.P. Bowlologist**



---

**BOWLOLOGY**

---



# Knowledge Requirements of a Bowlologist

From covering Tom Smallwood at the 2009 PBA World Championship to the passing of legendary Mark Roth to the latest bowling ball, I cover it all as a Bowlologist should when it comes to the sport of bowling. Items included are how to bowl, running a tournament or league, knowing the history of the sport, the latest equipment announcements, the ins, and outs of tournament analysis, how to score a game and coaching from a beginner to an advanced bowler. A Bowlologist also understands the physical game on the lane, the must knows of the rules of the game, and being an ambassador to the sport. A Bowlologist would also know how to run a pro-shop and know the fundamentals of ball design. Knowing the distance of the patterns and knowing how many milliliters of oil is on the lane are other points a Bowlologist would know.

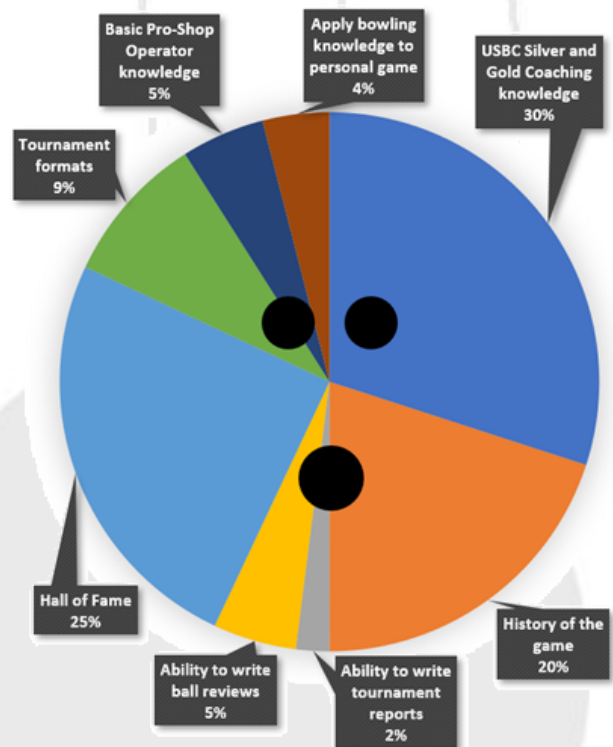
In December of 2021, I did a bowling pin study on how many degrees a pin must fall in a successful single pin spare. If any bowlers have a thought-provoking question, Bowlologists should be able to provide information and data based on analysis.

These are knowledge requirements that are essential for a Bowlologist.

## Bowlologist Job Description

This is a breakdown of a Bowlologist's tasks and responsibilities

- USBC Silver and Gold Coaching knowledge
  - *Knowledge of the sport*
  - *Physical game*
  - *Lane play*
  - *Ball dynamics*
- History of the game
- Ability to write tournament reports
- Ability to write ball reviews
- Hall of Fame
- Tournament formats
- Basic Pro-Shop Operator knowledge
- Apply bowling knowledge to personal game



Attending tournaments and associating with the bowling management is another factor in being a successful Bowlologist. This helps the Bowlologist contribute to the sport of bowling and interact with bowling center proprietors and pro-shop operators. Another good resource is the local USBC Association where a volunteer can be an asset to the local sport. Most cities host tournaments where help is needed for setting up brackets, managing side pots, organizing lanes, or promoting the tournament. Getting involved in local bowling events is the first step towards a bigger industry job.

# A Glimpse into the Career of a Bowlologist

In the past, Josh Hyde's Bowling Newsletter has included articles about how to become a Bowlologist. In November of 2020, I became part of the United States Bowling Congress committee member for the Hall of Fame. I am humbled by this great honor. At one time, the USBC had 10 million members in its entire organization. All bowlers have had to join the USBC to achieve their PBA card. Bowlers like Dick Weber and Earl Anthony are members of the PBA Hall of Fame and USBC Hall of Fame. This is the grass roots to becoming one of the best bowlers in the world. I have obtained the USBC Hall of Fame committee status because of my 10-year IBMA membership. This all started when I approached PBA President Steve Miller in 2001 at the PBA National Championship (now known as the PBA World Championship) and asked him how I could become a PBA member. A week later, I got my PBA card and a personal note that said "Congratulations to our #1 fan!". Two years later, I began my coaching career. I took a Level 1 USBC Coaching class. Five years after that, I started this publication. Three years later, I started the Bowlology column. The first column was on the Perfect Strike. In 2015, I began to take bowling modules for the USBC coaching program. Then I was able to obtain my Bronze Level coaching credential. Four years later, I would receive the Silver Level coaching credential. Along with these coaching accolades, my main purpose was to promote the PBA. In 2009, I ran into the Editor of the **American Bowler** at a PBA Regional where he asked me to write an article about that tournament. He would also help me publish my first book in 2012—"Bowling from Another View".

Below is a glimpse of my accomplishments that enabled me to become a Bowlologist:

Started Nov 2011 Bowlology column

2001 Honorary PBA member

2003 Level 1 USBC Coaching program

2009 Wrote article for "American Bowler"

2012 Balls of the Lanes column (includes Brunswick logo);

I write column in exchange for Brunswick bowling balls)

2012 Authored "Bowling from Another View" book

2012 Bowling modules

2008 Josh Hyde's Bowling Newsletter

2015 Regional staff member for Vise

2015 Bronze Coach Level

2012-2013 Josh Hyde's Bowling PBA Media Guide

2015 50th Anniversary TOC Media Kit

2014 PBA Hall of Fame committee member

2020 USBC Hall of Fame committee member

2017 1st 300 game

2019 Silver Coach Level



# A Note from a Bowlologist

The Mount Rushmore of Bowling is Dick Weber, Earl Anthony, Walter Ray Williams, Jr. and Jason Belmonte. All four of these bowlers know how to throw strikes when needed. Over the years, I have studied the game in depth. I have been fortunate to know the greatest bowlers on Earth. In writing this book, I had the opportunity to receive my bronze and silver certifications from the USBC. I would like to thank the USBC coaching staff for allowing me to obtain these two coaching certifications. Every bowler wants to get ten pins down in one shot—this is called a strike. Then, they would like to get a 300-game. A few years ago, I came up with a number: 10-30-300. This number represents the three main numbers that a bowler would like to attain. A bowler strives to get ten pins down in one shot on the first ball. Then, the bowler would like to get 30 in the first frame. Finally, but certainly not least, they would like to get a score of 300. Therefore, 10-30-300 represents the bowling number. In becoming a Bowlologist, a person must have the knowledge to coach a fellow bowler about bowling ball dynamics and the history of bowling. From gutter balls to strikes, bowlers want to get better. A bowler may ask themselves this question: How can I get better? The answer is both simple and complicated. It depends where they are in their bowling game. It takes one more spare to increase their average by ten pins, rather they want to win the league championship or win the U.S Open. It all comes down to making repeatable shots.

Writing this book has been the biggest project in my bowling career. I really want bowlers to understand the game, advancing their personal game to a higher level. Watching bowling tournaments and bowling at my local center has given me experience and helped me write about the sport of bowling. Growing up there were a number of bowling manufacturers that made their own bowling balls. Today bowling ball manufacturers are making bowling balls stronger and more powerful.

If bowlers looked back throughout the 20th Century, they would see how scores have drastically skyrocketed. It was a different surface and different oils. Bowling centers would use an old bug sprayer to oil the lanes. Bowlers would know where to throw the ball. A board would be marked to have a decent score. If bowlers did not play that the area of the lane, they were not going to score that night. It was a tougher game back then. It was very rare for a bowler to throw an 800 series. Now days, 800 is easier to shoot with the bowling ball and lane technology that a bowling center mechanic applies. Bowlers need to know their equipment in order to score. When a bowling center has a house shot, it is easy to score. However, there is still going to be pins left on the pin deck after the first ball. Bowling a 300 is still an art and an achievement. Bowlers that have been bowling for 40 years might say there is a scoring epidemic, in that the bowling ball technology makes bowling easier. However, when a bowler does not have the correct form and does not have the proper ball in their hand, they are not likely to have high scores.

# Becoming a Bowlologist

Back in 1997, my mom and I went to the Bowling Hall of Fame & Museum in St. Louis, Missouri. This was my second visit there. I had always wanted to see old bowling films and talk with the curator about bowling history. He said that he would give me a tape to watch anytime I wanted to. On the way back home, I had told my mom that I really wanted to be a bowling specialist. Then she preceded to make up a word for me, Bowlologist. I totally believed that it is what I have become. Back in November of 2011 of this publication, I had started the Bowlology column. It highlighted my knowledge about the sport I passionately loved.

When I was growing up, I was going to amateur and professional tournaments. By going to both of these types of tournaments over the years, I was able to observe a number of bowlers bowl, study how they played the lanes, and analyze their physical game. I also studied bowling ball dynamics, learned the history of the game including PBA Trivia, and attended over a 100 PBA tournaments. I became an honorary member of the PBA. Throughout the years, I have studied the game. When I was growing up I would watch the video by Don Johnson titled **“A Pro’s Guide to Better Bowling”**. Going to countless pro and amateur bowling tournaments has helped me along the way as I watched the greatest bowlers. I also had a mock pro-shop and would bowl mock PBA tournaments. This helped me throughout my entire bowling career. I have been to a number of pro-shops and bowling centers around the Midwest and East Coast in the USA.

I am so thankful to my Mom and Dad for taking me to these tournaments. Roger Hyde, my Dad, was the most skilled pro-shop operator and ball driller in the area. He knew the dynamics of the bowling ball and was adept at drilling for the ABC (currently known as the USBC). He helped me understand a great deal about the bowling ball. This is what my Dad taught me.

To fully become a Bowlologist, a person has to get to a bowling center and start applying their skills and knowledge to see what works and what does not. In the past, I have written about how to make adjustments from changing balls to moving a bowler’s feet. There have been a number of times in which I have made adjustments with my ramp, and I have changed balls to get the correct ball motion in order to score higher. On December 2, 2018, I was using the Quantum Edge® ball and could barely shoot over 150, but then I switched to my Forest Green Quantum® and averaged 219. Another time, I changed zones but used the same ball and was able to score higher. The knowledge that I have learned over the years is through my Dad (Roger Hyde) and Parker Bohn III. These individuals have strengthened my knowledge of the sport that I love.

Back when I was a kid, I would imitate the greatest bowlers of all time. I watched Mike Miller who was a two-finger bowler and saw him win the PBA National Championship in 1991 beating PBA Hall of Famer Norm Duke for the title. Now that was impressive! Kelly Coffman was a bowler who had an impressive strike ball. I watched Jason Belmonte using a two-handed style to knock over ten pins with a bowling ball. Here are some of the pros that I have seen throughout my career as a Bowlologist. Walter Ray Williams, Jr. is perhaps the greatest of all time. He moved from playing inside to moving outside. He was still able to have the same ball reaction to score. Pete Weber is perhaps the greatest bowler to have never won the Chris Schenkel Player of the Year honor. He won ten titles with various types of bowling ball technology. Early on (’95-’96), he had a difficult time with resin reactive balls. Weber then retooled

and discovered what he needed to do with these balls in order to compete on the PBA Tour. It does not get any better than that. This is what a Bowlologist should be striving for.

## **Bowling Essentials**

Throughout my bowling career, there have been two main elements that I have tried to cover. Since 1989, I have been a PBA fan. When Mike Aulby won the 1989 Showboat in Atlantic City, New Jersey, I was hooked. The very next week, he would go on to win the Budweiser Open in North Olmsted, Ohio. By 1990, I attended my first major tournament which was the Seagrams Cooler U.S. Open when Ron Palombi Jr. won his first major. In 1989, Mike Aulby would win his second jewel of the Triple Crown of bowling at the U.S. Open by defeating Jim Pencak. That same year, Aulby would win the first of his three Masters titles. Learning how to keep score in bowling was probably the hardest fundamental to learn. By 1995, I became a pro at learning how to keep score.

There are two binders that I have been working on. These bowling essentials are covered in these binders: one is PBA-related and the other is instruction on how to bowl. Even though I write the Josh Hyde's Bowling Newsletter, JHB covers both amateur and professional tournaments. I have also established Josh Hyde Bowling. I have three letters—I, T and P. They stand for Instruction, Tournament and Professional Bowling. These are the three main elements of bowling. These three key factors of bowling are what makes bowling a sport. In recent months, I have written about becoming a Bowlologist. I also know a great deal about the sport of bowling—how to throw the ball. Bowlology is my own bowling instruction to improve a bowler's skills, from the physical game to ball dynamics.

The USBC is the national governing body for bowling. They have created uniform rules and standards that apply from local to national tournaments for amateur and professional bowlers to gain a foundation as they aspire to become PBA members. USBC has rules and guidelines in which bowling can be regulated for every bowler in the United States. Other countries are modeling their own homegrown versions of the USBC after the success of the United States Bowling Congress. USBC promotes bowling for everyone—from the Joe Bowler that bowls his local league to the Jason Belmonte and other PBA greats. USBC offers tournaments at the local, state, and national levels. They even have different patterns red, white, and blue. The USBC honors scores are as follows 300, 299, and 298. The governing body of bowling allows bowlers to compete for national titles. This tournament is called the Open Championships. The United States Bowling Congress will build eighty lanes for the 20,000 teams that will participate in the tournament. In previous years, bowling centers used to be able to buy the actual lanes to add to the lanes in the bowling center.

The PBA Tour should be educational and interesting. When Joe Bowler fine-tunes his game, he can try out his talent on the PBA Tour. When I created the bowling tournament hierarchy, I wanted bowlers to understand what they are up against when they try the grass roots of bowling tournaments — local and PBA Regional tournaments.



# Is bowling a Sport

*[The word “sport” is defined as “an activity involving physical exertion and skill in which an individual or team competes against another or others for entertainment.”]*

Some bowlers today may say that bowling is not a sport. This is because of the bowling ball technology. Another reason why they may say bowling cannot be considered a sport is because the athletes do not have to run or break into a sweat.

However, bowling is indeed a sport. If people do not think that bowling is a sport, I would like to ask them: “What do they call throwing a 16-pound ball down a lane and hitting ten targets?”

Bowling is indeed a difficult sport to come by, even if bowlers are able to drill a ball to do specific tasks at hand. If a ball does not see friction on the lane, no matter how much of a strong layout they have drilled into the ball, it will not hook. The bowlers still must have the skill to throw the ball to knock over pins. The ball cannot get a strike by itself.

Bowling is a sport because a bowler must make a delivery to knock over the pins. Until the bowling industry makes a remote control bowling ball, in my mind, bowling will always be a sport.

We all love to bowl. We love the competition. Whether it is in a league or a tournament, for a local-town trophy or the Tournament of Champions, bowlers are competing to win. Throwing a 16-pound ball to get down ten pins in one or two shots is not an easy task. Even though today it may be slightly easier to roll a 300 game now than it was in the 70s, a perfect game is still a perfect game and is still an extremely difficult feat.

For people who may think that bowling is not a sport, I would suggest they try a sport (local) bowling league. These are more challenging lane patterns and are used on the PBA Tour. When they can average 230 a game on these patterns, maybe I will rethink my stance. Until then, bowling is definitely a sport.

## Regulating Equipment for Professionals

The PBA is the greatest entity in the sport of bowling. Yet it affects everything from how different bowling balls are marketed to which shoes and gloves are acceptable on the tour.

In 2011, Lenny Nicholson was on Xtra Frame (now known as Flo-Bowling), talking about how one of the traditions of bowling was not letting pros use high-tech bowling balls. This may sound like a good idea, but in reality, bowling fans do not want to see low-tech balls going down the lane. For all the scratch bowlers that watch the PBA Tour, this would not let them see the type of ball motion they are considering when purchasing a new ball.

What might be a better answer is not regulating the angles which a PBA player can drill. Making regulations on drilling layouts limits the excitement of bowling. This could be one of the area that the PBA could look into, enabling players to know what they need to do in order to hit the pocket in a direct way.

Johnny Petraglia told bowling digest that in making the lanes harder, the USBC could regulate how much adaptation a bowler could do to their ball. This is one area that make bowling more of a challenge. If the PBA could investigate in this procedure, more people might consider bowling more a sport due to the added difficulty.

The plastic ball championship was a good tournament, but some players were not as happy because they could not use their full “arsenal.” This would be like NASCAR race only allowing cars to go a certain speed or MLB players only being able to use one weight of bat. Sports fans want to see the best players face all possible variables.

# **Bowlologist Philosophy**

“Bowlology”—the study of bowling with the desired result being that the student gains more knowledge of and more respect for the sport.

Serious bowlers know the bowling lingo today. However, when there are new bowlers or a family of four going out to bowl—they are not aware of some of the specifics of the sport of bowling.

I went bowling one time, and my caregiver stepped over the foul line nearly falling. She did not know that there was oil on the lane, so I told her. She asked why, I explained to her that it is like golf where there are trees, bunkers, water hazards, and rough. I also explained that this helps the bowler know where to throw the ball and where not to throw the ball. Then she was able to understand.

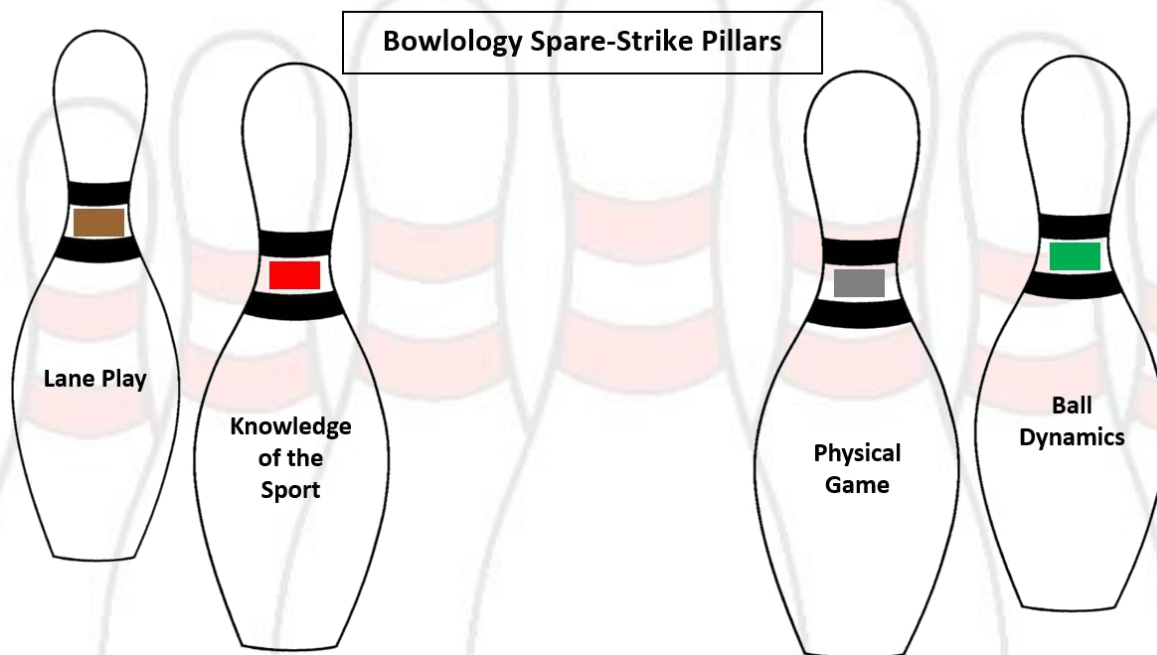
I had another caregiver who bowled and had high-performance bowling balls yet could not describe pin location to me. She also told me she had bowled a 240-game and a 250-game, but did not shoot a 600 series. On top of that, she told me she was better at converting splits than spares. She was a right-hander but slid on the right foot instead of the left foot.

A golf professional that I know once told me that he would take a first-time golfer out on the range and work with them on their driving, chipping and putting before they could even go play a round of 9-holes.

There is no expectation for a first-time bowler. Many, when they start, do not want to get serious about the game. At the same time, there should be some guidance for first-time bowlers to learn basic bowling techniques. There is generally no one at the bowling center to help first-time bowlers learn more about the game. Yes, they may just want to bowl one time a year; but if they want to learn something more, there is no one to help them strengthen their knowledge of bowling.

The caregiver with the high performance bowling balls would have been better off with a simple ball and instead focused on learning bowling basics.

The difference between the pro bowlers and amateur bowlers is that amateurs look at where the ball enters the pocket as opposed to pros looking to see how the ball goes through the pins. If a bowler can make the ten go out on a half pocket shot and also carry the solid pocket hit and have a light hit pocket and strike they know they are going to be able to score throughout the tournament or league. All bowlers are trying to strike in different ways. The US Open pattern on the PBA Tour is by far the hardest pattern to string a number of strikes together. Just ask Pete Weber, winner of 5 US Open titles. This is not an easy task to complete.



When Bowlology was founded in November of 2011, the Josh Hyde's Bowling Newsletter wanted to give bowlers some knowledge of the sport. These spare- strike pillars are essential to Bowlology in that they are the four pillars that a Bowlologist will need in order to help bowlers, coaches and pro-shop operators.

--The First Pillar is Knowledge of the Sport which involves split making, makeable splits, lane courtesy, the perfect strike, score keeping, playing field, pin knowledge, pin carry, and general bowling knowledge.

--The Second Pillar is the Physical Game. If a bowler does not have a solid foundation, he or she is not going to be able to execute in every frame. Timing puts away the trail leg, the finish position and the arm swing. These are the main attributes of a bowler's physical game.

--The Third Pillar is Lane Play which is how the bowler plays the lanes making hand position and speed adjustments. In most sports, the athletes are not going to have to worry about the surface of the field. However, in bowling, bowlers do have to know what the lanes are doing in order to be a contender in a league match. The same holds true when Jason Belmonte needs a strike to win the U.S Open. Lane play is a big portion of a bowler's game.

--The Final Pillar is Ball Dynamics. This is where the bowler and the pro-shop operator need to be on the same page. Each bowler is different. If a pro bowler wins a Major and Joe Bowler wants to use the same ball with the same layout and surface, more than likely Joe Bowler will not have the same results as the pro bowler due to differences in their game. They may use the same ball except with a different layout and surface. This is why it is so important for the pro-shop operator to know Joe Bowler's game. Pro-shop operators generally know the dynamics of the bowling ball. Ideally, the bowler needs to find a pro-shop operator that has some coaching experience. If he/she has a pro-shop operator and a coach, all three need to come up with a game plan so that the bowler can be successful on the lanes.

These four Bowlology Spare-Strike Pillars will enable bowlers, coaches and pro-shop operators to identify bowling knowledge.

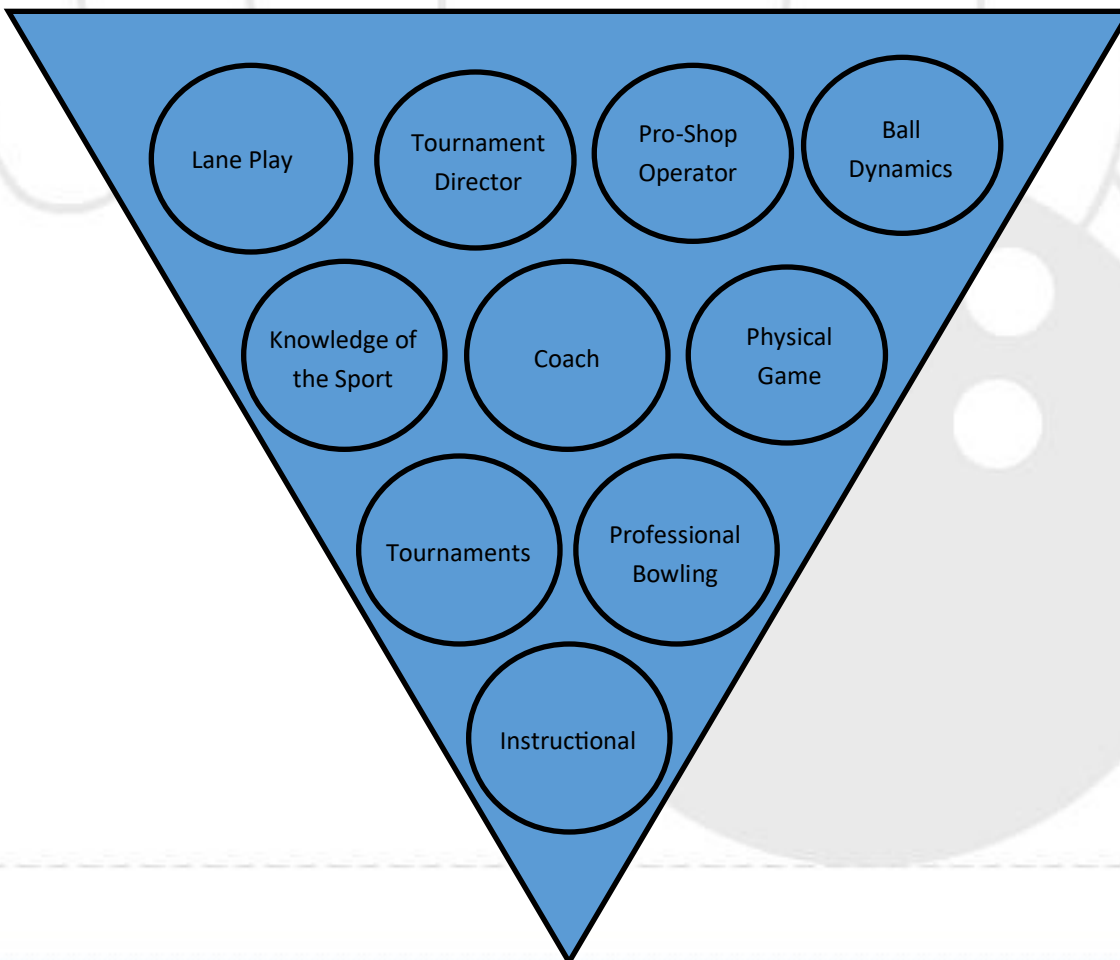


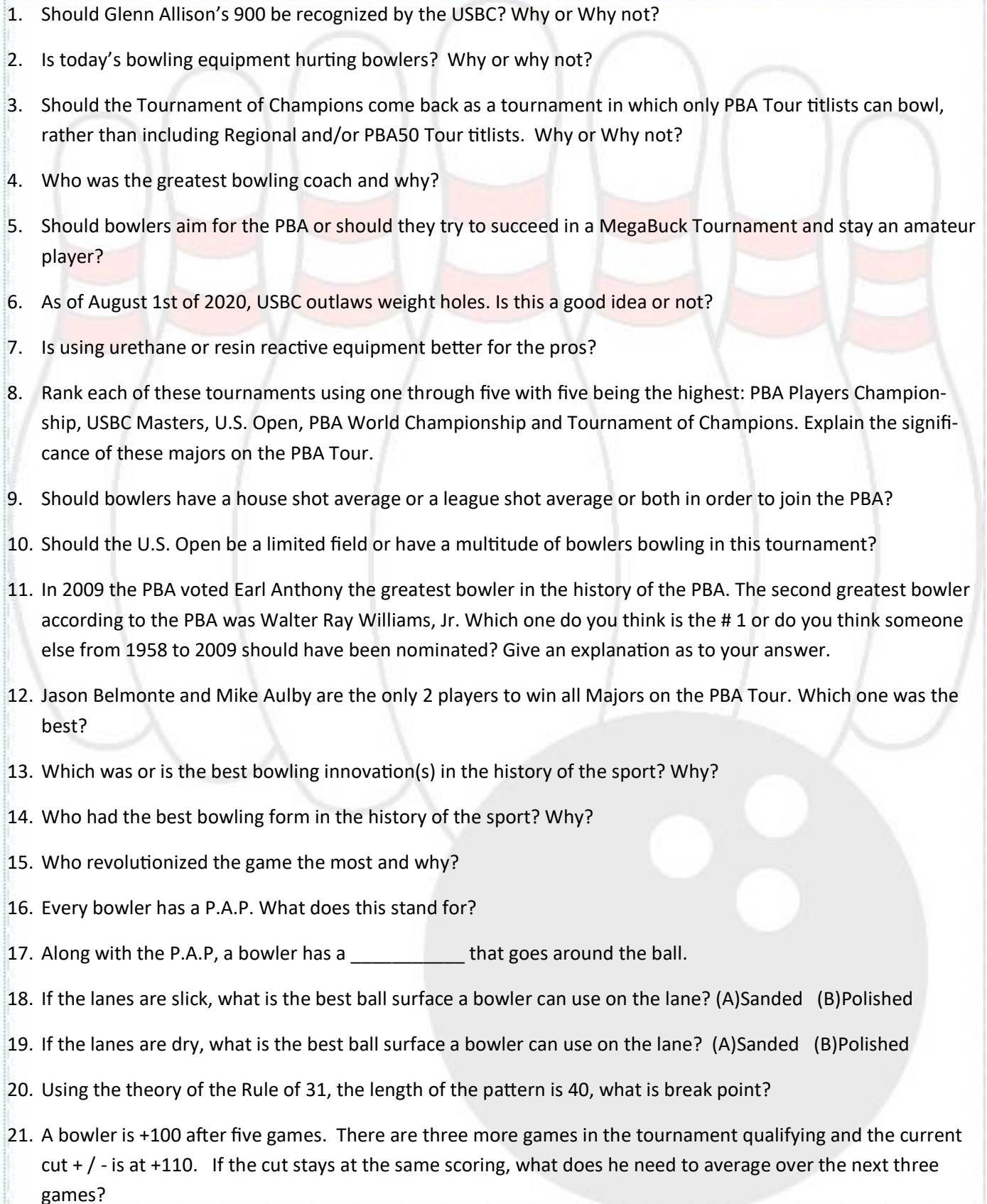
# Ten in the Pit - Important Bowling Numbers

## Every Bowlologist Should Know

10	The maximum number of pins a bowler can knock down in one or two shots
10	The number of frames in a single bowling game
10	The number of pins on the lane
15	The number of feet from the back of the approach to the foul line
20	Minimum score per frame that a bowler can obtain for a 200 game
30	The amount of pins that a bowler can achieve in one frame
39	The number of boards on a bowling lane
60	The number of feet from the foul line to the headpin
75	The number of feet from the back of the approach to the headpin
300	The maximum score for a bowling game

## Bowlologist Pin Deck



- 
1. Should Glenn Allison's 900 be recognized by the USBC? Why or Why not?
  2. Is today's bowling equipment hurting bowlers? Why or why not?
  3. Should the Tournament of Champions come back as a tournament in which only PBA Tour titlists can bowl, rather than including Regional and/or PBA50 Tour titlists. Why or Why not?
  4. Who was the greatest bowling coach and why?
  5. Should bowlers aim for the PBA or should they try to succeed in a MegaBuck Tournament and stay an amateur player?
  6. As of August 1st of 2020, USBC outlaws weight holes. Is this a good idea or not?
  7. Is using urethane or resin reactive equipment better for the pros?
  8. Rank each of these tournaments using one through five with five being the highest: PBA Players Championship, USBC Masters, U.S. Open, PBA World Championship and Tournament of Champions. Explain the significance of these majors on the PBA Tour.
  9. Should bowlers have a house shot average or a league shot average or both in order to join the PBA?
  10. Should the U.S. Open be a limited field or have a multitude of bowlers bowling in this tournament?
  11. In 2009 the PBA voted Earl Anthony the greatest bowler in the history of the PBA. The second greatest bowler according to the PBA was Walter Ray Williams, Jr. Which one do you think is the # 1 or do you think someone else from 1958 to 2009 should have been nominated? Give an explanation as to your answer.
  12. Jason Belmonte and Mike Aulby are the only 2 players to win all Majors on the PBA Tour. Which one was the best?
  13. Which was or is the best bowling innovation(s) in the history of the sport? Why?
  14. Who had the best bowling form in the history of the sport? Why?
  15. Who revolutionized the game the most and why?
  16. Every bowler has a P.A.P. What does this stand for?
  17. Along with the P.A.P, a bowler has a \_\_\_\_\_ that goes around the ball.
  18. If the lanes are slick, what is the best ball surface a bowler can use on the lane? (A)Sanded (B)Polished
  19. If the lanes are dry, what is the best ball surface a bowler can use on the lane? (A)Sanded (B)Polished
  20. Using the theory of the Rule of 31, the length of the pattern is 40, what is break point?
  21. A bowler is +100 after five games. There are three more games in the tournament qualifying and the current cut + / - is at +110. If the cut stays at the same scoring, what does he need to average over the next three games?

Game 1	Game 2	Game 3	Game 4	Game 5	Game 6	Game 7	Game 8	Score	+ / - 200	Current Cut + / - 200
205	225	205	240	225				1100	100	110

22. During a tournament, a bowler decides that he needs more surface. He uses a 1500 Abralon pad during competition. Is this legal?
23. What are the phases of ball motion? A. Hook, Skid, Roll B. Roll, Skid, Hook C. Skid, Hook, Roll
24. How tall is a regulation bowling pin?
25. What is the circumference of a bowling ball?
26. What do they call the scale used to weigh a bowling ball?
27. True or False? The Oil Pattern is oiled from Gutter to Gutter. This is called the Flat Pattern.
28. What is an asymmetrical weight block?
29. What is a symmetrical weight block?
30. True or False. In an asymmetrical weight block, there is a mass bias.

High Game \_\_\_\_\_

High Average \_\_\_\_\_

High Series \_\_\_\_\_

USBC Membership ☐ Yes ☐ No

PBA Member ☐ Yes ☐ No

IBPSIA ☐ Yes ☐ No

IBMA ☐ Yes ☐ No

Name: \_\_\_\_\_

Email: \_\_\_\_\_

Feel free to email Josh Hyde at [joshhydebowling@gmail.com](mailto:joshhydebowling@gmail.com)

If you have any questions please contact me.





# BOWLING ORGANIZATIONS

Bowling Resource Guide

SINCE THE START OF THE MODERN BOWLING ERA, THESE ORGANIZATIONS HAVE HELPED PROMOTE AND MAINTAIN THE INTEGRITY OF THE SPORT OF BOWLING.

## **United States Bowling Congress**

The United States Bowling Congress serves as the national governing body of bowling as recognized by the United States Olympic & Paralympic Committee (USOPC). USBC conducts championship events nationwide including the largest participation sporting events in the world – the USBC Open and Women's Championships – and professional events such as the USBC Masters and USBC Queens.

Founded in 1895, today USBC and its 1,519 state and local associations proudly serve more than a million members. USBC is headquartered in Arlington, Texas, working toward a future for the sport. The online home for USBC is BOWL.com.

## **About the Bowling Proprietors' Association of America**

The Bowling Proprietors' Association of America, Inc. is a non-profit organization — the only one in the world that serves the specific, yet diverse, interests of bowling center owners.

## **About the International Bowling Media Association**

Located at the International Bowling Campus in Arlington, Texas, the International Bowling Media Association (IBMA) promotes bowling journalism as a career choice to youth bowlers throughout America and provides awards and recognition to professional and amateur bowlers, industry volunteers and bowling writers.

The IBMA was formed when the Bowling Writers Association of America (BWAA) and the National Women Bowling Writers (NWBW) merged into one group in 2007, forming the new BWAA. The name was changed in 2011 to include more forms of media.

Membership in IBMA is open to individuals and corporations who support the ideals of the organization. Corporate membership fees help fund the \$5,000 Chuck Pezzano Media Scholarship presented by the Billiards and Bowling Institute of America.

The Bowling Writers Association of America, founded in 1934 by 16 charter members attending the organizational meeting in Peoria, Ill., was dedicated to developing professional writing, broadcasting, and photographic skills within the sport of bowling, while subscribing to the highest ideals in communicating the word of bowling throughout the world.

The National Women Bowling Writers was organized on April 18, 1948, in Dallas, Texas. Their primary purpose was the promotion and circulation of material to aid writers in their work and to increase interest in bowling among women throughout the nation. The strength of NWBW was in the effectiveness of its grass roots members to communicate the story of bowling to local bowlers.

### **About the PBA**

The Professional Bowlers Association (PBA) is an organization of more than 3,200 of the best bowlers from 27 countries who compete in PBA Tour, PBA International Tour, QubicaAMF PBA Regional Tour, PBA Women's Regional and PBA50 Tour events. The PBA is in its 57th consecutive year of nationally-televised competition, reaching bowling fans around the world who follow PBA activities through the PBA Network which includes Xtra Frame, the PBA's exclusive online bowling channel, ESPN and CBS Sports Network, and the PBA on Facebook, Twitter, and YouTube. PBA sponsors include Barbasol, Brunswick, Ebonite International, GEICO, Grand Casino Hotel and Resort, HotelPlanner.com, MOTIV, 900 Global, PBA Bowling Challenge Mobile Game, QubicaAMF, South Point Hotel Casino and Spa, Storm Products, and the United States Bowling Congress, among others. For more information, log on to [www.pba.com](http://www.pba.com).

### **About the PWBA**

The Professional Women's Bowling Association (PWBA) originally was formed in 1960. The PWBA Tour has events throughout the country, offering high-level competition and top prize money for women bowlers. The PWBA is supported by the Bowling Proprietors' Association of America (BPAA) and the United States Bowling Congress (USBC).

### **About the International Bowling Museum and Hall of Fame**

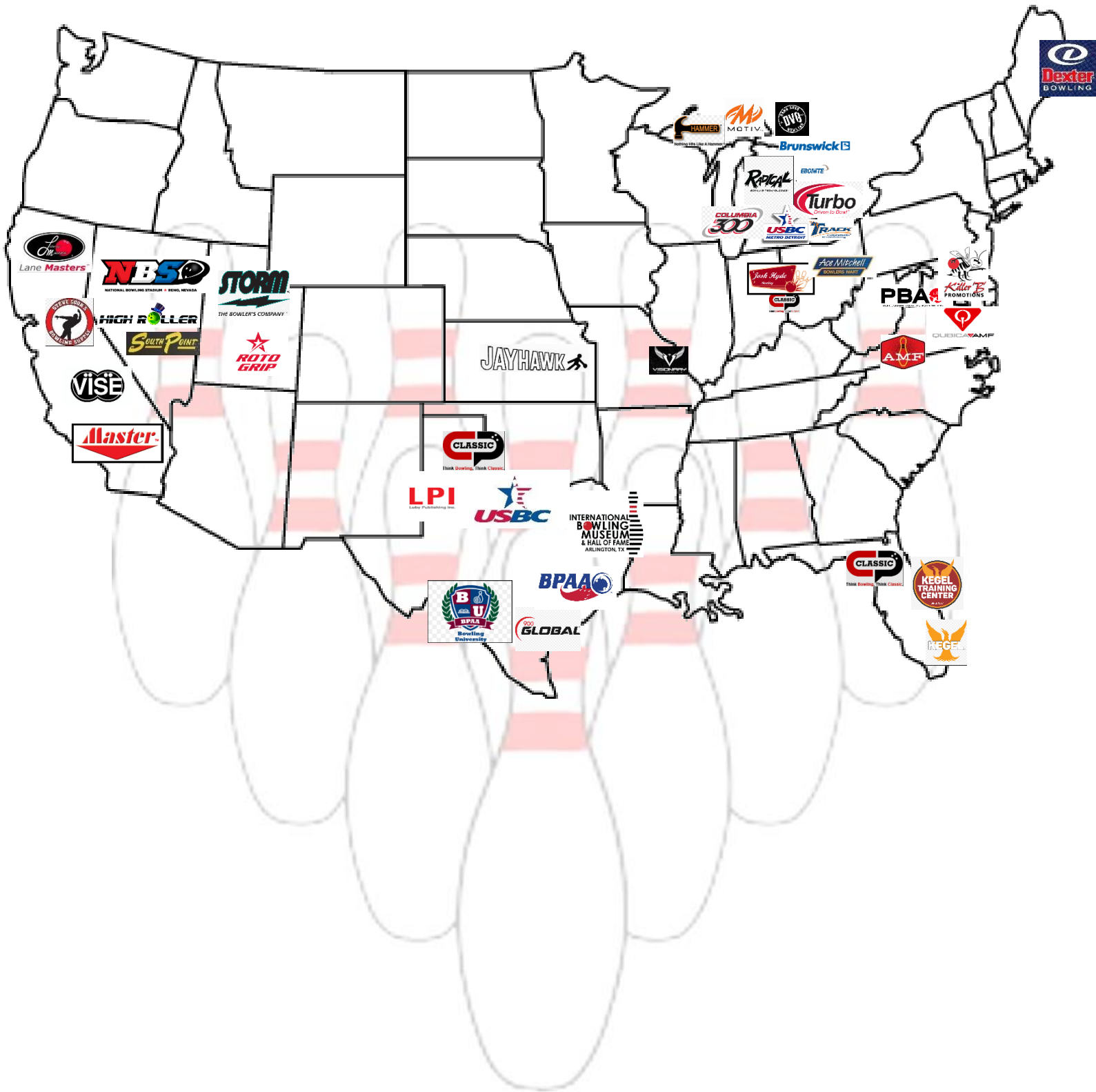
Discover the region's premier sports museum brimming with one-of-a-kind bowling artifacts, a unique bowling experience and a cutting-edge glimpse at the far-flung future of this global pastime. Pass through Bowling's Hall of Fame where rare photos and vintage film clips tell the stories of bowling's greatest legends. The International Bowling Museum and Hall of Fame collects, preserves and exhibits the 5,000-year history of the worldwide sport of bowling. From the ancient Egyptians to British monarchs to an enterprising German immigrant, follow the sport's journey from archeological digs... to American taverns... to today's cutting-edge computer assisted training centers. No visit to the International Bowling Campus is complete without experiencing the International Bowling Museum and Hall of Fame.

The International Bowling Museum and Hall of Fame is located within the International Bowling Campus. The IBC is the educational, scientific, and governing home of the sport. In addition to the museum, on campus you will find the Bowling Proprietors Association of America, The United States Bowling Congress, the International Training and Research Center. For information about how to enroll in lessons at the ITRC see the learn more button below.

### **About International Bowling Pro-Shop & Instructors Association**

To assist pro shops and instruction professionals to become successful and more profitable by providing education, benefits, and industry standardization.





## **The Game Changer**

**By Mark Baker**

### **Chapter 1: "Discovering a Coaching System That Works for All Bowlers"**

"Whoever can generate the most momentum with the least amount of effort and the greatest degree of control will have the best chance to win."

"As their slide foot got flat on the approach, their swings were both parallel to the floor."

"At that moment, I decided I was going to conduct an experiment with my late-running client and see if I could get him to 'the timing spot' during our lesson. After tweaking a few things with his footwork and timing to get him closer to the spot, he saw immediate improvement in his game-THAT SAME DAY!"

"Almost every great contemporary bowler matched! Mark Roth, Dave Husted, Amleto Monacelli, Doug Kent, Chris Barnes, Bill O'Neill-each of them highly successful, world-class players-they all matched. Then I looked at a few of the all-time great woman bowlers like Robin Romeo, Leanna Hulsenburg (formerly Leanne Barrette), Liz Johnson and Kelly Kulick-they all matched!"

"The first thing I needed to look at when I evaluated a new client was: Does the bowler possess footwork and a swing that promotes consistency?"

"What I discovered again was that the great bowlers had a lot more in common at certain points in the delivery (namely, during the pivot step, the timing spot, the release point and the finish position) than one might imagine at a casual glance."

"Did the bowler have problems hitting his target? If the answer was 'yes', I'd start by looking at the footwork and the swing path from the back. If the answer was 'no', and the issues tended to be more a lack of consistent speed control or rev rate, I knew the problem had to be in the timing, so I'd watch from the side."

"Drift pattern-The measurement of the direction of your steps throughout your approach."

"I'll never forget his words after watching that comparison video: 'I can't believe how much better it looks now! But I never even felt a thing the whole time! You changed me without ever making it feel like I was changing!'"

"That is my philosophy of coaching: to make you better within the context of your natural game."

"Our goal is to make your game as easy to repeat as possible."

### **Chapter 2: "How I conduct a Lesson"**

"Unless you're averaging under 160, you don't need to throw it BETTER, you just need to throw your best shot MORE OFTEN."

Textbook Pushaway timing: "Bowlers with this kind of timing tend to have a lower rev rate than other bowlers and must rely on accuracy and consistency to knock down the pins."

"There are really only four misses in the sport of bowling: miss right, throw it too fast; miss right, throw it too soft; miss left, throw it too soft; miss left, throw it too hard;"

"Miss right, throw it too soft and Miss left, throw it too soft are characterized by the following symptoms; You tend to bowl better the 1<sup>st</sup> game of league and then struggle toward the end as the lanes start to hook more, You have trouble generating adequate ball speed, your rev rate is lower than you'd like it to be, you tend to drift right, you have trouble keeping your balance, and you can't stay behind the ball and tend to 'top it'."

"I discovered a way of measuring timing that is universal-that nearly every Hall of Fame-caliber bowler fits in. The best part is,

as bowlers get closer to fitting this mold- which they can do regardless of their style- their games tend to improve rapidly.”

“There are three categories of timing (represented by three Hall-of-Famers) and every bowler fits into one of them.”

“If you want to improve, you must first identify what kind of timing you have, then identify your most common misses.”

“I evaluate direction issues from behind and timing issue from the side.”

“Set a goal that, when you reach it, will make you a champion at your level.”

### **Chapter 3: “Why Do I Miss My Target and How Do I Fix It?”**

“What is Consistent Direction? Hitting your target at the arrows is important, but only if your footwork and swing path are allowing you to throw the ball with consistent direction.”

“In every other successful instance, I’ve done it the other way around and changed the footwork to improve the swing. Why has this worked? Because good footwork allows the ball to swing freely and unimpeded, ultimately leading to an improvement in power, consistency and score-all while reducing the amount of effort required to throw the ball.”

“The quality of a bowler’s footwork is directly proportional to the quality of his overall game.”

“What is good footwork? In general, it is relatively straight from start to finish, well balanced, well-paced, (meaning there are no abrupt starts, stops or lengthy pauses) and matches well with the bowler’s swing path and rhythm. In other words, it complements the direction and the speed of the swing!”

“The swing is where any weaknesses or inconsistencies with your footwork are likely to show.”

“It is ultimately your swing (even if the swing’s direction is determined mostly by your footwork) that will determine your accuracy and your ability to throw good, consistent shots. More specifically, it is the *path* of your swing that will determine how simple your delivery is to repeat-and what you will find is that bowlers who possess the straightest, most relaxed swings-swings that stay in line with their shoulder and fall directly under the head- tend not only to have the most consistent direction but also have the greatest capacity for generating power in the form of speed and rev rate.”

“Measuring the swing at four points; 1) during the stance, 2) at the bottom of the swing as the ball is coming back, 3) at the top of the swing and 4) at the bottom again as the ball is coming through.”

“It is more important to match the ideal positions at the peak of the swing and at the bottom coming through than it is during the stance and at the bottom going back.”

“The best players tend to have pushaways that are very simple and very repeatable and get the ball into the swing with a minimum amount of effort, tension and, most importantly, no lateral movement.”

“Your goal with the pushaway then, should be to get the ball from its starting point in the stance to as close to under your head as possible as the ball goes back into the swing.”

“The length and speed of this step is predicated on your category of timing: bowlers with Tommy Jones timing will usually make this step quicker because the swing is already on its way to the top, while a bowler with Chris Barnes timing will make it slower (to allow the ball more time to reach the peak of the backswing). Bowlers with Carolyn Dorin-Ballard timing will be somewhere in between the two.”

“Footwork is the most important factor (even more important than the swing) in determining a bowler’s shot-making consistency.”

“It is better to drift away from your target than toward it.”

“Bowlers with better footwork can play inside line much more effectively and are also more powerful, accurate, and consistent in playing all angles than bowlers with less solid footwork.”

### **Chapter 4: “Why is My Timing Off and How Can I Fix It?”**



"I prefer to see the distribution of effort between the upper body and the lower body in the ballpark of 30 percent and 70 percent, respectively"

"Remember: legs are for power. The arm is for direction."

"flat spot is that it is "the line made by the two points represented by the position of your hand at the bottom of the swing and at the release."

The Release: "But the one thing that all of these good bowlers do is that much as we saw with the spine tilt, there is a window in which these bowlers release it from, and individually, they all happen to be extremely consistent with releasing the ball from the same spot time after time."

"More specifically, their hands tend to stay in the center of the ball vertically, while remaining close to the equator in the horizontal direction."

"Another thing the pros do during this release move is that they do not rotate their forearms with their wrists and hands."

"Chris Brane's Circle would be about the size of a half-dollar. The 160 bowler's circle would be about the size of a dinner plate. That's because Chris Barnes' release point (not to mention his direction) is going to be much more consistent than his 160-average counterpart (and you would hope so considering Chris bowls for his living)."

"The cause of this problem varies (sometimes it's length of his push away (*Bill O'Neill*) other times it is caused by pulling the ball back into the swing and, occasionally, his third step will get a little slow), but you can see it very clearly when you look at Bill's swing from the timing spot to the release point."

"When Bill is on, his swing is completely flat is at the bottom, which allows him to get away with these slight misses and to feel as if he can miss a little bit to the right and still get the ball back, and also miss a little bit left and get the ball to hold it's line."

## **Chapter 5: "How Can I Tell When Everything's Going Right?"**

"We've seen in detail how direction, balance, timing and generating momentum are absolutely fundamental when it comes to improving your ability to play the sport of bowling. When you do everything in a way that is fundamentally sound according to what we've discussed so far, you'll suddenly begin to notice a set of things you now have in common with other good bowlers."

"Since the sport of bowling is made up of three main categories of variables(the physical game, lane play and equipment) learning to control your physical game by throwing the most consistent shots possible will help you eliminate one of those variables (you!) so you can simply focus on lane play and equipment adjustments."

"Finally, we all want to be one of the "cool kids" and, in the sport of bowling, the cool kids are the pros. We all want to throw it like them, and the purpose of this book up to this point has been to help you identify the key fundamentals shared by the pros that you can incorporate into your game to produce better results than you've ever experienced."

"What this looks like is this: their weight is balanced perfectly on top of the left leg, the head and shoulders are behind the knee, the throwing arm is swinging freely back and forth with the front of the forearm facing directly at the target, and the pivot leg is extended out to the left with the foot turned down towards the floor."

"For bowlers who haven't quite yet reached that level, the finish position can encompass all sorts of interesting, telltale configurations-from the lean-back, to the lean-forward, to the fall-off, to the fake-post."

"But on the demanding conditions of tournament bowling, these small mistakes are often the difference between strikes and 2-8 -10's and big fours, which, at the wrong time, can cost you making the cut, making it to TV or winning the title."

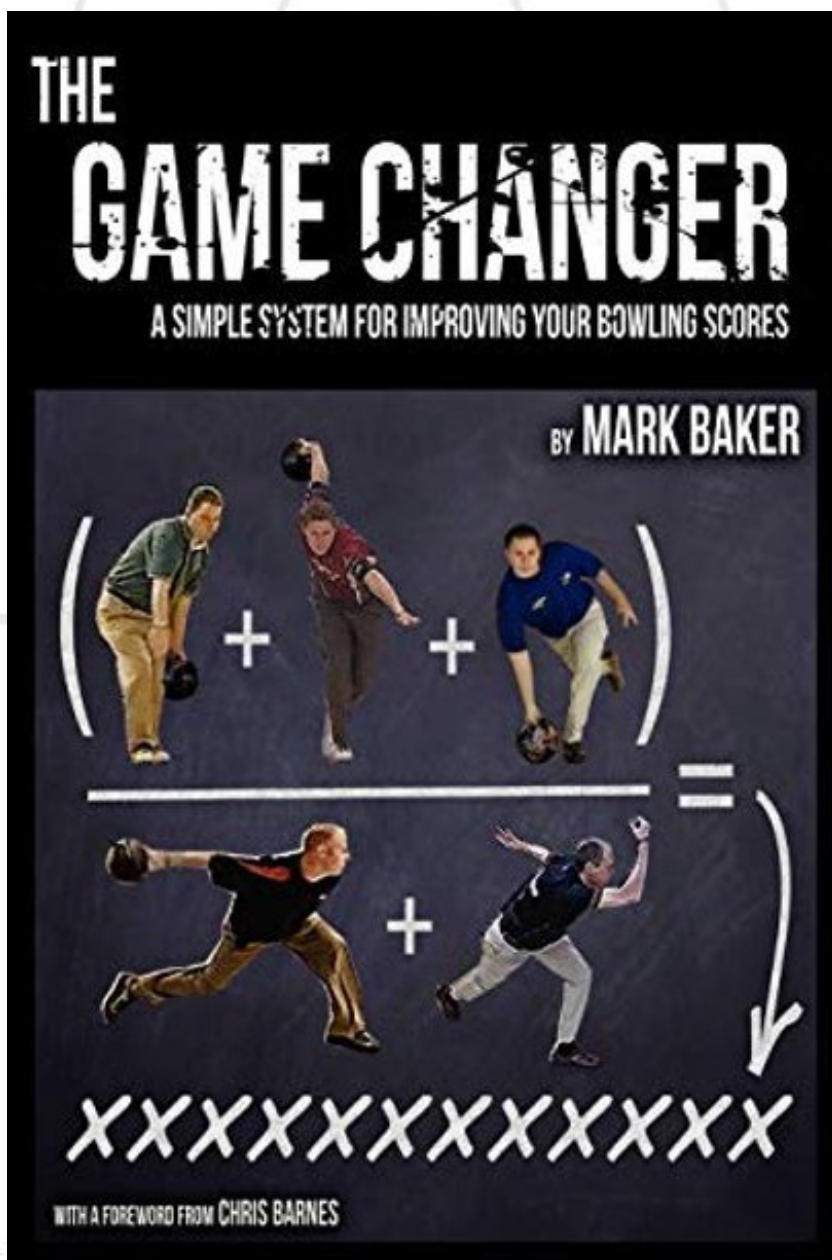
"When it comes to bowlers that haven't reached the pro-level, the finish position tells me that there is an issue with balance, and the telltale sign of that is what I call "falling off" the shot.

"From the side, there are a couple of big keys that illustrate the universal finish position, namely: the position of the head and shoulders in relation to the slide knee, the level of the hips, the amount of shoulder rotation, and the spine tilt. All of these elements are related, and if you see one going wrong it usually sets off a chain reaction causing each of the other pieces to falter as well."

"If you rank the all-time career PBA title winners by number of titles, then classify each of them as either "Stone-Cold-Shot-Maker" or "Unique"

"Norm Duke is one of the best examples of excellent footwork in the history of bowling. He employs perfect crossover steps prior to his push way and on the pivot step (both of which clear space for the ball to pass right under his head unimpeded), his steps are a fairly even length from start to finish, his spacing is consistent and his balance is as close to perfect as you will see."

In this book bowlers can find a way to strike more rather they want to strike to win the league or strike to win a PBA regional title. The best bowlers have these qualities built into their game. It is important to understand that to have a sound game a bowler must repeat shots over and over. If they are already falling off a shot. They really need to look at their game to improve their league average. Even if they are just interested in bowling in a PBA regional competition on a regular basis. They need to figure out what they can do better and fix what they need too. This book will help bowlers on all sort of levels. The Game Changer is an appropriate title for the book that Mark Baker wrote.



## **Bowlology DVD Review**

### **The System**

**By Mark Baker**

**Featuring Tommy Jones, Chris Barnes, Lynda Barnes, and Barry Asher**

This DVD is intended to get a bowler's game on a solid foundation. Mark Baker was a great pro in 1985-1991 but now he has turned his attention to coaching bowlers. In the introduction to the DVD, Mark states the goal of his program which is to help bowlers from amateur level to the pros make more best shots, more consistently with more power. Whether they want to just improve their scores or bowl a perfect game.

Mark breaks the game down to ten Hall of Fame Positions. These positions will help bowlers become more accurate, powerful, and consistent in their game, improving their average. The absolute key thing is the timing step. Mark refers to this as the ball is parallel to the lane. The slide leg is still behind the head. Chris Barnes, Lynda Barnes, and Barry Asher are all at the same point at the release. They may not all get there in the same way or same manner, but they do indeed get there. What does this produce? It makes a bowler more accurate and more fluid to their approach. Baker also describes how every good or bad shot in bowling adds up to 100%. He encourages bowlers to use the only ten percent during the first two steps of the approach so that bowlers can retain more energy for the power at the end of the release. If a bowler uses 30% on his or her, they only have 70% left for the remainder of the approach. Hall of Famers practice this time and time again in order to be more accurate on the release of the ball.

Mark Baker analyzes the Hall of Famers games and focuses on what points they are at in each of their bowling approaches to the foul line. He also describes some of the amateur bowlers that he coaches. One amateur his ball is way out. This bowler thinks that he can get a straight swing in fact. The ball is pointing to the seven pin on the adjacent lane. Mark recommends that the bowler's ball should coincide with seam of their shirt. Mark Baker has broken down the game so that Joe Bowler can get better at whatever level he wants to be at.

In the DVD Baker points out that some of the greats have early and late timing. However, they still end up in the hall of fame, rather it be the PBA or USBC Hall of Fame or both. The question is how a bowler can be consistent throughout his or her game. One of the key things is there swing parallel to the floor, when they start to slide. Baker tells bowlers how to videotape themselves correctly so they can achieve the Hall of Fame positions to get where the bowlers want to be. An incorrect way is following the bowler from the start of the approach. Baker does not want to see the ball in the stance of the bowlers. This causes the bowler to make an adjustment in the middle of their shot causing them to think about their game. When a bowler steps on the approach the brain needs to turn off. Bowlers should not be thinking about the mechanics, ball choice, and/or adjustment. This process needs to take place in the settee area that's where the bowler's sit while they are waiting on the next frame.

Before Baker goes into the Ten Hall of Fame Positions, he informs the viewers of how they need to videotape their game. First the bowler needs to see their footwork and swing in the same frame. Second, when filming from behind it must be from straight behind and not at an angle. Third, when filming a bowler from the side, the camera should be two lanes down, with next to the gutter cap and foul line. The bowler should be in the center of the frame where their entire approach can be filled from start to finish. Do not track the ball after the release of the ball. Finally, when filming the ball get on the concourse behind the bowler to film the motion of the ball from start to finish.



### The Six Steps of the System

**The Stance-** the stance is where the ball should not be visible from the back. Teammates or fellow bowlers should not be able to see the ball from directly behind. Bowlers should be putting their ball in line with the seam of their shirt.

**The Push Away-** is designed a smooth downswing, by keeping the bowler's shoulder soft. The bowler's energy in the push away should be 10% with the remaining 90% being used in the rest of the approach. This usually means two long steps followed by three short steps at the end or slow at start/fast at finish.

**The Swing-** top of the swing ball should cover the top of the bowler's head. It comes directly under the bowler's head on the down swing.

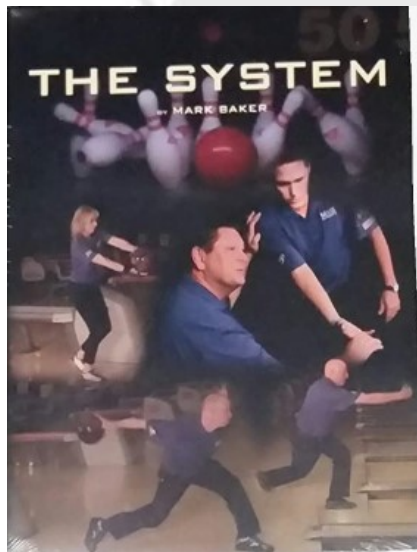
**Footwork-** this involves the cross-over step which will generate the ball to get on right direction. The pivot step should be slightly inside the bowler's head. On the slide, the upper body should be using about 30% of a player's energy while the lower body should be using 70%. Foot speed should be slightly greater than swing speed.

**Timing Spot-** this is the key piece of a bowler's game. If the bowler can get the swing parallel to the floor, then they are able to generate more power to make a great shot.

**Finish Position-** the head should be behind the bowler's knee not the head in front of the knee. The bowler will fall off the shot and not be accurate causing a great deal of frustration because they are always falling off the shot. Bowlers want to be fluid in the approach and stable at the end of the shot.

### The Release of the ball

It is very important to keep the right hip low and steady in the release. This allows the arm to keep a consistent arc for the ball and the hand to release from behind the ball. If a bowler allows the hip to rise, the arc of the ball will remain the same, but the hand moves on top. If a bowler feels like they have a "chicken wing", came over the top, or did not stay behind the ball, this hip position could be the main cause. The bowler needs to stand tall at the beginning of the approach instead of standing tall at the release point. Chris Barnes stated that he focuses on staying tall at the beginning of his approach as a way he keeps his right hip low.





# **Bowlogy DVD Review**

## **Learn to Bowl Competitively**

### **By Norm Duke**

Norm Duke is a 40-time PBA Tour Champion along with two Players of the Year honors and a total of eight majors. He was the first bowler to win three majors in one calendar year. Duke was the first bowler to win the regular U.S Open and the Senior U.S Open. Duke was the youngest bowler to win a PBA title. Learn to Bowl Competitively for the higher average bowler who wants to advance their bowling game. This DVD gives bowlers drills, tips and other insights on how to take their game to the next level.

#### **The Lessons**

##### **Setup Parts 1 & 2**

In this lesson Duke emphasizes on how bowlers need to have basic setup mastered so has to fall short of the foul line on the release. They can use the four to six and a half steps drill from the foul line to ball return. Norm stated that when bowlers open their feet, they are also opening their waist. In order to create more speed bowlers can hold their ball higher in their stance. Duke also points out that raising ball speed is done by raising the arms in the setup position to lower ball speed one should lower their arms. Bowlers should always have their arm swing synchronized with their walk.

##### **Finish Position Drill**

This is the essential bowler's position just after release of the ball where a bowler has a bent left knee/straight right leg or the opposite if they are left-handed. The non-bowling arm should be a counterbalance. The bowling forearm should be facing toward the ceiling and the target.

##### **Ball Placement**

The center of the ball should be centered over the right leg or the opposite if you are left-handed. Extending the bowling arm is a key for ball placement and allows an arc to form with no sharp edges.

##### **Free Swing**

A bowler's swing of the ball should be like a pendulum. Norm recommends a practice drill using a medium size tuna fish can to practice the pendulum swing.

##### **Turning the Ball Early**

Keeping your arm from chicken winging. Let the ball fall on the top of the swing do not pull it down with your arm. Keep your forearm always pointed straight. The palm of the hand should be on the ball with fingers in a V.

##### **Timing & Approach**

Timing in bowling is the synchronization of the approach and ball swing leading a bowler to arrive at the line at the same time with their slide foot and the ball.

##### **Tight Rope & Grip Pressure**

The tight rope drill keeps your feet close, and the approach compact so you do not have bobble head. Grip pressure is how you grip or hold on to the ball. This is something that you should visit a pro-shop on, so they can drill a ball appropriately. If this is done correctly the bowler's fingers should ripped out or twisted.

##### **Grip**

This is a crucial topic for a bowler that Norm goes over which is the position and thumb holes on a ball. A bowler should not have to jam their fingers and thumb into a ball to maintain control of it on the swing and at the moment of release. A bowler can easily be injured with the wrong fit of the ball and suffer poor performance.

##### **Weak Wrist**

This is a drill for strengthening the wrist so that your wrist is stable when you release the ball. A bowler should place the ball in their hand and go through some carrying motions without putting their fingers or thumb in the holes.

##### **Power Source**

This is getting torque from tension generated between the upper and lower body.

##### **Revs**

The thumb should easily release before the fingers release. The more time between these two the more revs a bowler will impart to their ball. More revs equal's more power and more pin action down lanes.

##### **Release Drill**

Norm shows bowlers a simple but effective release drill. A bowler kneels at the foul line with their right knee behind their slide foot. The bowler should have several balls on standby as they push the ball down the lane practicing straight ball, big hook, and the back up ball.

#### Swing Planes

Norm explains this as the setup with vertical and horizontal gridlines. The vertical lines is for positioning and the horizontal is for speed. Norm shows with the use of graphics the V shape a bowler should use for getting a perfect hook. The breakpoint is on the right of the V (opposite for left handers)

#### Low Ball Drill

Bowlers have a natural tendency to miss a single pin spare. An easy way to work is the low-ball game is quite simple hit the 7 and 10 pins without the ball going in the gutter or knocking the other pins down.

#### Reading the Lanes

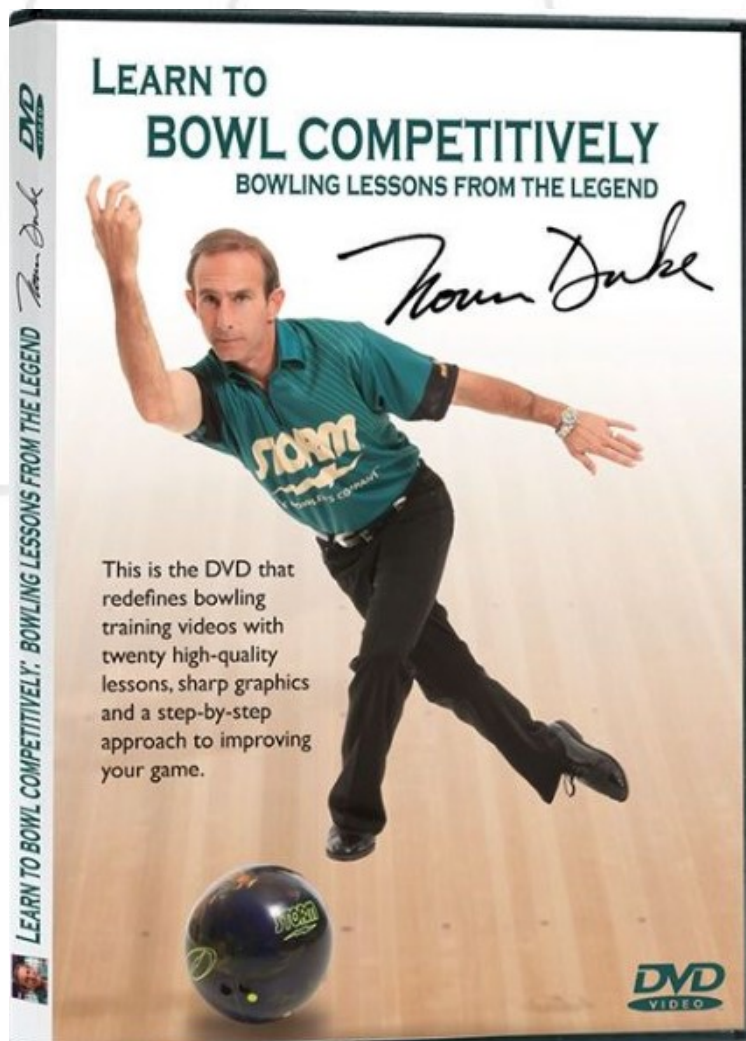
This is learning how to read the oil pattern on the lanes and the boards and the rule of 31 to find the breakpoint.

#### Lane Transition

Norm explains this crucial concept the oil pattern breakdown during a tournament as oil is removed from the lane after each shot. As bowlers use the oil pattern parts of it start to carry down the lane creating more variance with spots that could have more oil or less oil creating the potentials for more hooking or less hooking.

#### Carry and Pin Fall

A bowler should watch how a ball exits through the pin deck. The ball should have power going through the pins not lightly knocking them over.



## **Bowlology DVD Review**

### **Becoming a Better Bowler**

**With Walter Ray Williams Jr**

**The All-Time Title Holder on the PBA Tour and All-Time Career Earnings**

#### **The Grip-**

The House balls are drilled generic to fit all sizes of fingers and thumbs. Bowlers should not have to squeeze to hold onto the ball as this could result in injuries. A serious bowler will get a customized ball, so they have a relaxed grip. The thumb hole should be drilled bigger to allow for the insertion of tape of varying amounts. Power players have their pinkie finger tucked to get more lift on the ball.

#### **The Targeting System**

Targeting is getting your body and the ball pointed in the right direction using the pins, arrows, and dots to line up the ball to hit the pocket or the spare pins. Bowlers can use the arrows, dots, or even bowling pins or the foul line to use as the targeting method. Walter recommends using the arrows to bring your target closer.

#### **Hand Releases**

To get a big hook on the release, use a bent elbow on top of the back swing to receive more power. He shows bowlers how to go up to the foul line to emulate different hand positions so that the bowler can feel the release. To pick up spares, learn to throw straight. The thumb and fingers stay in line with the target.

#### **Step Drills**

These are meant to get the bowlers to feel what is natural to the bowler in getting the ball to the release point. For the 1-step drill - Start in an athletic position, ball position starts near the body. Let the weight of the ball guide your tempo. At the top of the backswing, take a step. Get a nice loose armswing. Finish in a balanced, swing position. Work on a nice tempo.

#### **Nuances of Bowling-Hitting the Pocket-**

Bowlers can hit the 1-3 pocket with the ball, but that does not guarantee a strike. Leaving a weak 10 means hitting the light in the pocket. Walter has seen Michael Fagan leave a 5-7-10 split at the Tournament of Champions after hitting the pocket. Michael Fagan has a big hook. Walter wants bowlers to hit the pocket as often as they can and not focus on trying to plow the whole pin deck down.

#### **Lane Play-**

To bowl, good bowlers must throw the ball well and play the lanes properly. Striking in practice should not be the main focus. Bowlers should practice playing different parts of the lane so they can get better at knowing what parts they can play and what they cannot play.

#### **Common Problems-**

Walter wants bowlers to be in time, so their feet are matching their arms in the approach and the swing. He says the best way to catch whether you are doing this right is to have a camera setup from the side on the approach to film what you are actually doing, not what you think you are doing.

#### **Two-Hand Release-**

Can create more hook and revs on the ball. Bring both hands close to each other with a lot more wrist on the ball. Jason Belmonte throws a big hook on his strikes. That is why he is one of the best bowlers of today.

#### **Spare Shooting**



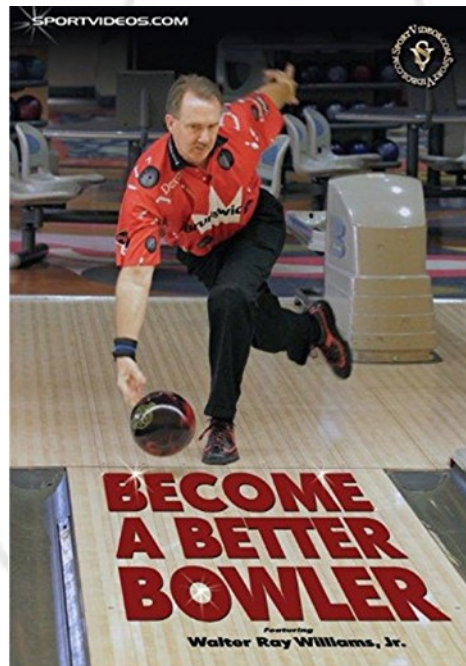
For shooting single pin spares, bowlers need to learn how to make their spares straighter. Use a plastic ball for spare shooting in competition because plastic does not hook as much. Use a strike ball to practice spare shooting. Bowlers should give themselves plenty of room for error when making spares. The only spares that bowlers should hook, at is when there is a sleeper 10.

#### **Practice Tips-**

If possible, practice on challenging lanes. Pros should be doing at least 20 to 30 games a week. Bowlers should be practicing more spare shooting. Get negative reinforcement to make more positive shots than positive reinforcement on negative shots. Stretching is a necessity in addition to lane practice and avoiding injuries.

#### **The Mental Game-**

When a bowler is competing, try not to think about the minute details of techniques but the outcome instead. A bowler should worry about what they did wrong afterwards and keep a positive but realistic attitude and expect some form of success. Bowlers should expect that some days are going to be better than others no matter what you do or how hard a bowler tries to bowl their best.





## **Bowling DVD Review**

### **Beyond the Bowling Basics**

**With Parker Bohn III & Brad Angelo**

**PBA & USBC Hall of Famer, Two-Time Player of the Year,**

#### **Bowling Equipment-**

##### **Grips**

Conventional Grip-for a conventional grip the fingers will fit up to the first or second knuckle. A pen should be able to fit snugly in between the palm and the ball.

Semi-Fingertip Grip-In this grip the fingers should be between the first and second knuckle. The thumb should always be inserted all the way in thumb hole no matter the grip.

Fingertip Grip-Will give the bowler more revolutions and power. The thumb should be inserted all the way into the thumb hole with the ball resting on the palm. A proper span is indicated by a pen or pencil fitting in between palm of the hand and the bowling ball.

If a bowler wants to become a serious contender, they will see a pro-shop operator to get properly fitted ball.

Bowling Shoes- Bowlers should get their own shoes preferably ones that allow you to change the soles and heels to suit the particular conditions of the approach to a lane. Some approaches can be rough and others slippery depending on a variety of factors. As a bowler advances their game, they are going to want to fit their bowling shoes.

The Right Bag- Beginning bowlers usually will start out with one or two ball bags. As a bowler increases their average they will need to add to their equipment. The three-ball bag will allow to take two strike balls and one spare along with room for their shoes and other essentials.

Other Equipment- This should include a towel or shammy to wipe the oil of the ball, Rosen bag to keep your hands dry, interchangeable grips, skin tape to prevent injuries to the thumb and fingers, extra heels, soles, and laces. Abralon pads to put the right surface on a bowler's ball for the right lane conditions. Rule of Thumb the slicker the lanes the lower grit a bowler will need. The dryer the lane the bowler will need to use a less abrasive grit on the pad.

#### **Preparing to Bowl-**

Stretching- a bowler should get loosen up by doing wrist curls, back stretches, back bends, squats, and leg stretches.

Mental Preparation- scope out the lanes before you start at your lane and see what the other competitors are doing in their games with how they are making strikes and spares.

Pre-Shot Routine-wipe your ball off then check the bottom of the bowler's shoes. Dry your hands and then check left and right if both lanes are clear. Bowlers need to think about how they are going to play the next shot when they are in the seatee area.

Beginners are going to have two or three balls as a bowler increases their average, they will be more likely to grab more balls. Keep in mind that a bowler should always see their pro-shop operator.

#### **Building Your Shot**

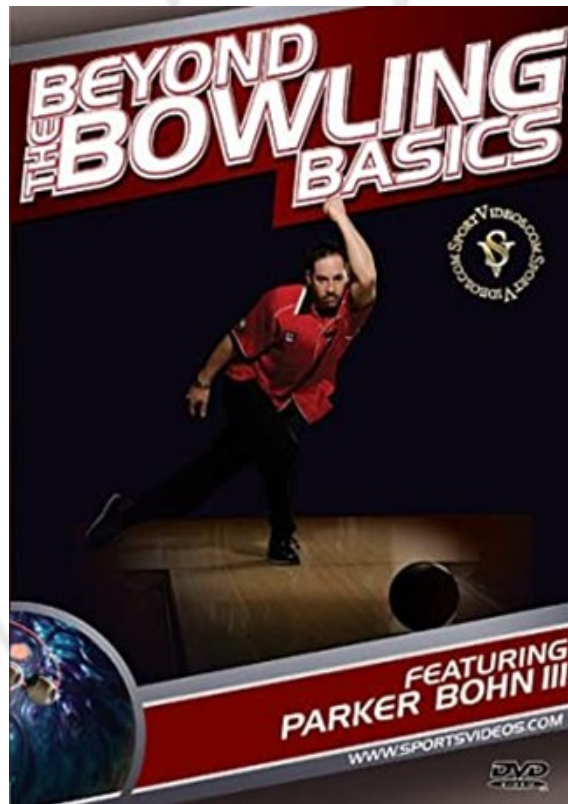
Four or Five Step Approach- First step is lock and get the ball straight, second is the trail leg, third step is the back swing, and the fourth is the slide and release.

Releases-locked, leading, full-cupped wrist toward forearm

Bowlers need to maintain how much they can hook the ball and keep it under control.

Spares and Splits – Bowlers can use the 3-6-9 method for spares or the throw hard and straight at the single pin spares. The best piece of equipment is for their spare game is a plastic ball. Plastic will go much straighter and will take the lane conditions out of play. Bowlers do not need to break the pins in half they should be able to touch the pin with the side of the ball in order to knock them over.

Both Brad Angelo and Parker Bohn III emphasized the bowler's spares. The pros can throw strings of strikes. They can also stay clean and make their spares. Parker also said to lock their arm in place after a bowler pushes out from a ball.



## **The Sport of Bowling Epilogue**

In this pin study, we discover that bowling is indeed a sport. All aspects of the game were studied - from the Greatest moments and the best players to the innovations in bowling. The objective of bowling is to throw consecutive strikes; however, in the 2023 US Open, bowling fans saw four different lane patterns. Even the greatest of today, Jason Belmonte, did not fare well with an average of only 195. EJ Tackett became the ninth player in PBA history to earn the Triple Crown. He did it by striking when it was necessary. The sport is more complicated than achieving a strike on every frame. This is why bowling is indeed a sport. Bowling ball technology has advanced over the years, while lane conditions have become more challenging. This means a bowler cannot miss their single pin spares on a challenging lane condition. Bowlers must learn to convert their makeable spares in order to be in contention in any competition. All of these factors mean the sport of bowling should be taken seriously and not just viewed as a recreational pastime.