**Introduction**
Incremental Progression in Bowling 4

**Chapter One**
Basics 5
  The Basic Steps ................................................................. 6
  The Bowling Pin Order ....................................................... 7
  Unwritten Rules Every Bowler Needs to Know .................. 8
  How to Hold a Bowling Ball ............................................... 9
  The Four Step Approach in Bowling ................................. 10
  Arm Swing and Release ..................................................... 11
  Follow Through ................................................................... 12
  Basic Line Bowling .......................................................... 14
  Targeting Methods ......................................................... 15
  Keep Your Eyes on The Target ........................................ 16
  How to Keep Score .......................................................... 17
  The Most Important Thing in Bowling .............................. 28
  How to Shoot Basic Spares ............................................. 29

**Chapter Two**
Intermediate 31
  The Study of Bowling Ball Motion ...................................... 32
  Roll Out ........................................................................... 33
  Understanding Bowling Lane Conditioning ....................... 34
  What is Carry-Down? ....................................................... 38
  Playing The Lane Conditions .......................................... 39
  Determining A Sport or House Pattern ........................... 40
  Bowling Lane Play-The 3 Basic Lines .............................. 41
  Adjusting For Dry Lane Conditions ................................. 42
  Tips for Increasing Pin Carry .......................................... 43
  The Elusive 10 Pin ......................................................... 44
  Carrying More 10 Pins .................................................... 46

**Chapter Three**
Advanced 47
  Controlling Your Ball Speed ............................................. 48
  How to Change to the 5 Step Approach .............................. 49
  Changing Hand and Finger Positions to Affect Roll ............ 50
  Methods for Getting Your Ball to Roll Sooner .................. 53
  Advanced Ball Drilling .................................................... 54
Chapter Four
Practice
How to Practice Bowling .................................................... 58
When to Practice ............................................................. 59
Take Videos for Better Bowling ........................................... 60
How to Stay Flexible ....................................................... 61
Rules to Follow When In a Bowling Slump ......................... 62

Chapter Five
Equipment
Simple Rules When Choosing a New Bowling Ball ............... 64
Bowling Towels Things You Should Know............................ 66
How to Choose a New Bowling Bag ..................................... 67
Bowling Shoes for a Better Game ...................................... 68
How to Clean and Maintain a Bowling Ball ......................... 70
How to Polish a Bowling Ball .......................................... 73
How to Use Abralon Pads to Surface Your Bowling Ball ....... 74
The Construction of a Bowling Ball .................................. 76
Bowling Ball Surface Polished or Dull ............................... 78
Asymmetric Cores in Bowling Balls .................................. 79
RG and RG Differential in Bowling Ball Specifications ......... 80
Why You Roll a Back-up Ball in Bowling ......................... 82
Some Common Causes of Thumb Soreness in Bowling ........ 83
INTRODUCTION

Incremental Progression in Bowling

We have to learn to walk before we can run. Becoming a better bowler is no different. *Insider Bowling Tips* provides tips and tricks for every skill level. We begin with the most basic fundamentals, progress through tips for the intermediate bowler and finish up with advanced techniques used by some of the best bowlers in the world.

It is crucial that you go through the improvement process step by step if you want to become a better bowler. If you are new to the sport of bowling, it is easy to get bogged down with advice for “improving” your game. The best strategy is to not overdo it. Like a computer running too many programs, it will only slow you down. Instructors call overloading your brain with too much information, “paralysis by analysis”. This book will help you tune out all the noise and be your guide.

Now, for you intermediate and advanced bowlers, you may want to open this book up and go right to the back pages to find those fancy techniques many of the pros on TV use. You can definitely do that, but be sure to take some time and review the fundamentals. Even when the best players in the world find themselves in a slump, they generally end up going right back to the basics. You never know when a quick refresher could help you find the hidden key in those fundamentals that will send you on a long lasting hot streak.
As a beginning bowler there are a few basic things you should learn well before you progress. This chapter will cover the basics and lay the foundation for a fundamentally sound game. It’s important to remember that many people you will see at bowling centers have been at it for years. Do not get discouraged or intimidated. Rather, talk to experienced bowlers, seek out opportunities to learn more and practice, practice, PRACTICE!
The Basic Steps

*Find a properly fitted bowling ball with a conventional grip.* We will discuss balls and ball fit, and make recommendations later in the book. I do not think you should spend money on an expensive ball when you’re just starting out, but I do recommend getting a name-brand ball from a pro-shop, bowling center, or on online retailer.

*Learn the Four Step approach* (in this chapter). This approach creates momentum, increases your ball speed and is the most fundamental approach to deliver your ball down the lane.

*Learn spot, arrow or line bowling.* All three of these techniques are discussed later in this chapter.

*Learn spare shooting.* Spares, especially as a beginner, are the biggest key to improving your bowling score.

Read, ask questions and if you can find a certified USBC bowling coach in your area they can help tremendously. A good place to look for a coach is in your bowling center’s junior bowling program. Most of these programs have certified, level-one coaches that would be glad to show you the four step approach, line bowling and spare shooting.
The Bowling Pin Order

Let’s start from the beginning. I have been in this business a long time and see lots of long-time bowlers that do not know the pin order. Here is an illustration from an overhead view.
Unwritten Rules Every Bowler Needs to Know

If you’re a beginner, you will want to know all about bowling etiquette. Here are a few simple rules that all league and open play bowlers should know. These rules are easy to understand and will eventually become second nature.

Lane courtesy says always let the bowler to the right of you bowl first. Even if your lanes are divided by a ball return, you should never jump in front of the bowler on either side of you. Always use lane courtesy and look both ways before bowling - just like crossing a street.

Never bring food or drinks down into the bowling area. Keep them up on the counters or tables behind you. Spilled food or drink can be a bowling hazard as others may step in it and stick, slide or possibly fall on the lanes.

Use two hands at the ball return. When grabbing your bowling ball at the ball return make sure to use both hands.

Take care not to walk over the foul line and track back the lane conditioner. This will leave oil on the approach and can cause players to stick or slide during their delivery.

Watch young children at the ball returns. If you have little ones bowling, make sure you keep their hands away from the ball returns as they can easily injure themselves.

Do not wear bowling shoes outside. They can collect debris and track back into the bowling area and on to the approach.

Take care when using the restroom. Make sure you do not walk in any water that may be on the floor. Water is a hazard and may cause you to stick and fall during your delivery.

Try not to use your drink hand as your bowling hand. Use your opposite hand when drinking a beverage and bowling. If you’re right-handed bowler use your left hand as your drinking hand. Moisture on your bowling hand may cause your ball to slip.
How to Hold a Bowling Ball

Most of the time, balls provided by your center will not fit perfectly. When selecting a ball from the rack you should look for one that fits your thumb, first. The thumb hole should not too big or small. Put your thumb all the way into the thumb hole and check the fit.

Next you want to check the span. With your thumb inside, lay your hand, or the span of your hand, palm flat, over the ball. You want to see that the second crease of your middle and ring fingers are about ¼ inch over the first edge of the finger holes on your bowling ball. Then make sure the finger holes on this ball are not too big and not to tight. Find something that will work for you that is comfortable and I would recommend buying your own ball as soon as you are able.

Now that you have a ball, it is important when starting out that you learn the correct way to position your grip. As you progress you will find there are many different grips you can use in bowling, like semi and full finger tip grips, but a beginning bowler should start out with the basic, conventional grip.

When holding the ball, put your fingers in first about 1/4 inch above the second crease and then your thumb. Make sure your thumb is in all the way. Turn your bowling ball so that your hand and palm are under the ball and hold your ball to your side, at about waist level.

You’re ready to begin!
The Four Step Approach

The Four Step approach is one of the first things you should learn. It can be hard for some or awkward, but with a little practice, it should come rather quickly. The examples below are for right-handed bowlers. Please reverse everything if you are left-handed (sorry, left-handers).

Start by standing at about the first set of dots on the approach. Hold your bowling ball at hip level to the side. On your first step using your right foot, push the ball out a little with your hand.

On the second step, using your left foot, allow gravity to let the ball fall.

The third step, using your right foot, the ball continues to fall in a backward, pendulum swing (like a ball swinging on a string).

The fourth step, you slide your left foot and roll the ball forward down the lane and toward the pins. Note: this is all done in one smooth motion. This motion should be smooth and fluid.

Once Again:

1. Remember right, left, right, slide on the left.
2. Your foot work and arm swing should be in sequence with each other.
3. Hold your bowling ball at hip level to start at the first set of dots on the approach.
4. First step, push the ball out a little.
5. The second step the ball falls (just let it drop but don’t let go).
6. The third step the ball falls backward, in a pendulum swing.
7. The fourth step you slide and roll the ball forward down the lane and to the pins.
8. Practice, practice, PRACTICE and have fun!
Arm Swing and Release

Providing you are using the Four (or Five) Step approach, the preferred method of arm swing is to use the pendulum swing. This arm swing should be smooth, effortless and in harmony with your footwork. In a pure pendulum swing, gravity should be providing all of the power.

The release point should be about at the ankle when you go into your slide. At this point you would let your thumb out first and then slightly lift with your fingers. Make sure you have the angle of your wrist and hand slightly toward the 1-pin at this release position. The ball should roll off your hand smoothly with the thumb out first and then your fingers. It’s important to give your fingers a slight lift at this point as this will give you more power and rotation on the bowling ball.

Round Housing Your Shot

Round housing is a common fault for beginners and happens when the arm travels around the body instead of straight back and through during the pendulum swing. This can cause a bowler to pull their shot or miss outside their target. It also makes it hard for bowlers to square up and roll the ball down their intended line because they are releasing the ball off-line.

Now, this may feel funny at first, but I hope it is the cure! Instead of starting your ball in the middle of your body at the beginning of your approach, you should start your ball in line with your target outside your hip area. Just move your arm to the outside of your body at the start. This should allow your arm to fall straight back then straight forward and down your intended line.
Follow Through

Following through in bowling is one of the easiest things to forget to do. Remembering can give you the benefit of improved accuracy, pin carry and confidence. Below are few tips to help you REMEMBER to follow through:

1. Write yourself a note and put it in your bag.

2. Use the old tie-a-string-around-your-finger technique.

3. A good stop position is what I call a hood ornament pose. Your knee is bent and your arm is extended like a statue or a hood ornament at the end of your approach.

4. Visualize each shot and see yourself extending in your follow through.

5. Reach for the sky and shake hands with God, so to speak, at the end of your delivery.
Topping Your Ball

This happens a lot with new bowlers. Sure it looks cool to have a ball head down the lane and take a huge sweeping hook into the pocket but trying to hook it can cause more harm than good. Topping the bowling ball is when a bowler goes around the ball rather than underneath it causing the bowling ball to roll down the lane much like a top. The common term for this is a spinner.

Usually, this type of ball motion does not have much punch or roll to it because the spinning motion diminishes surface contact with the bowling lane.

This axis rotation is caused when the fingers and thumb are pointing at 9 o’clock and going around the ball rather than at the 12 o’clock position and going up the back of the ball at the release point. In order to stop going around the ball I recommend a couple things.

1. Take a video of your release, if possible; seeing is believing.

2. Let the ball roll off your hand, naturally. Do not try to over-hook the ball, just let it roll. Your release should be more toward the ceiling not toward the wall. Stay behind the ball by letting your thumb out a little sooner and lifting straighter up with your fingers with a little finger “pop” at the end of your release point.
Basic Line Bowling

After you've learned the Four Step approach and have a good feel for the bowling ball, it's time to learn how and where to aim. When you target shoot, you don't just aim at a target that is several feet away. Instead, you use the gun site, which brings the target much closer and helps to line up the barrel of the gun to the target. The same is true when bowling.

You use targets on the bowling lane to help hit the proper spot on the bowling pins. These targets are a lot closer, and if you hit them correctly it will greatly improve your chances of hitting the pocket, which is the space between the head pin and the next two pins on the lane. So, if you look, you will see dots and arrows on the bowling lane itself. Those dots and arrows are designed for aiming purposes.

As a beginner, the recommended way to use these targets on the lane is to start with your feet around the middle dot then use the Four Step approach. You should aim your bowling ball in an area around the 2nd and 3rd arrows, angling the bowling ball toward the 1 and 3 pins (for right-handed bowlers), or the pocket. Left-handed bowlers should angle the bowling ball toward the 1 and 2 pins.

The golden rule is to move your body in the same direction your ball moves. For instance, if everything is done correctly but your bowling ball continually crosses over toward the 7 pin you would move your feet in the direction of the 7 pin, not a lot, just a board at a time on the approach until your ball finds the pocket. The same is true if your ball is not coming up to the pocket and you keep hitting the 6 pin area. You would then incrementally move right on the approach to make the proper adjustment (see illustration).

This does take practice, time, and patience.
**Targeting Methods Used in Bowling**

1. Pin Bowling - simply aiming directly at the pins.
2. Arrow Bowling – aiming at the arrows 15 feet from the foul line.
3. Area Bowling - aiming for a general area about 3 boards wide.
4. Spots Bowling – aiming at the dots about 8 feet from the foul line.
5. Line Bowling - visualizing an imaginary line to roll your ball along.

Pin Bowling - A lot of beginner bowlers find this method easier for them to use as the pins are a bigger target. However, because the pins are 60 feet away, it really is the hardest method to be accurate with.

Arrow Bowling - This is the most common method and is really one of the better ones for the average bowler. The arrows are about 15 feet away from the foul line and you simply pick out an arrow as your aim point.

Area Bowling - This is a step up from arrow bowling - Area bowling is when you pick out a general area on the bowling lane that is usually 3 boards wide. I find this the best method for intermediate bowlers. The targeting system is fairly accurate and easier to hit than some of the other methods.

Spot Bowling - This is a method that a lot of advanced bowlers have used when the lane conditions are slick. The dots are close to the foul line and can help you set the ball down sooner and slower. The problem is, since the dots are very close to the foul line they are sometimes hard to hit.

Line Bowling - This has become a common method used by more advanced bowlers. It requires strong visualization skills and being very familiar with your own stroke. A player will visualize or “see” an imaginary track line that starts at the foul line and continues into the pins. They will then simply attempt to roll their ball over that imaginary line.
Keep Your Eyes on Your Target

Not hitting where you aim is a common problem for bowlers. I know, because it will happen to me from time to time, usually when I get a new bowling ball or am in a new bowling center. My best advice is to look at your mark, not your ball.

What I tend to do when this happens is look at the reaction of the ball rather than where my ball is crossing on the lane itself. This will cause me to look up too soon and roll a bad shot. When I catch myself doing this, my eyes are drifting and their main focus is not on where I am rolling the ball but rather the ball’s reaction.

A bowler can lift their eyes off their intended target subconsciously. If you do not stay focused on hitting the target, you can end up looking at some other object in the bowling center without even knowing you are doing it. When your ball starts to drift, take extra time to ensure that your ball goes over your target. Look at your mark, not the ball. Do not look up until you hear your ball hit the pins.
**How to Keep Score**

Scoring a game of bowling is fairly easy. You need some basic math skills and being familiar with the following terms should help.

Frame = a box where you write the score on a score sheet  
Score Sheet = a game of bowling consists of 10 frames  
Strike = knocking all 10 pins down on the first ball rolled in a frame  
Spare = knocking all the remaining pins down on the second ball rolled in a frame  
Mark = filling the frame with either a strike or a spare.  
Open = when a bowler does not mark or pins are left standing after both balls are rolled  
Double = 2 strikes in a row  
Turkey = 3 strikes in a row  
Foul = when a bowler crosses over the foul line  
Split = when there is a gap between pins on a spare  
Gutter Ball = when a bowler rolls the ball in the channel.

In a frame, a bowler gets two balls, or chances to knock down all 10 pins. When a frame is bowled there are 5 things that can happen
1. **Strike** - All 10 pins are knocked down on the first ball bowled.
2. **Spare** - All 10 pins are knocked down after 2 balls bowled.
3. **Open** - There are pins left standing after 2 balls bowled.
4. **Gutter Ball** - A bowler gets no pins for that ball once the ball goes in the gutter. Even if the ball bounces back out and goes back onto the bowling lane, a zero is counted.
5. **Foul** - A bowler receives a zero when any part of his body goes over the foul line after the bowling ball is released.

Scoring allows bowlers to get rewarded for bowling strikes or spares.  
A *strike* is worth 10 pins PLUS the reward of the next 2 balls bowled.  
A *spare* is worth 10 pins PLUS the reward of the next ball bowled.  
An *open* does not offer the bowler a reward from the next frame. The bowler only gets credit for the pins knocked down in the current frame.
The Score Sheet
The game is scored on a score sheet that looks similar to the illustration below.

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A Sample Of A Game Score Sheet

In bowling, a game can be referred to as a line of bowling. Notice that there are 10 boxes or squares. These boxes represent the 10 frames in bowling that makeup a game. Also notice that in the right-hand corner there is a smaller box inside the first 9 frames. And in the 10th frame there are 3 smaller boxes. This is because the 10th frame is scored differently than the first 9 frames. The 10th frame is also the last frame in bowling.

Basic Symbols in Bowling

Strike = X drawn in the small box
Spare = / drawn in the small box
Miss = the minus sign (-) is used to indicate that no pins were knocked down
Split = a circle is drawn around the number of pins left on the first ball
Foul = the letter F is used.

Illustration Shows a Sample Frame

In the first 9 frames, the space to the left of the smaller box is where you write down the pins knocked down by the first ball bowled. The smaller box to the right is where you write down the pins knocked down by the second ball bowled. This box is also where you would mark a strike, spare or miss. The bottom of the box is where you keep the bowlers running total.
**An Open Frame** - A bowler knocks down 7 pins on the first ball. Then on the 2\textsuperscript{nd} ball the bowler knock down 2 pins. Your score would look like this.

![Open Frame Diagram](image)

**A Strike Frame** - A bowler knocks down all 10 pins on the first ball bowled. Your score sheet would look like this. There is no total scored yet because a strike is worth 10 plus the next 2 balls bowled. The bowler must bowl two more balls in order to add up and enter the total score for this frame.

![Strike Frame Diagram](image)

**A Spare Frame** - A bowler knocks down 7 pins on the first ball bowled. Then on the second ball, the bowler knocks down the remaining pins. This is a spare (shown in the illustration below). Like the strike frame there is no score total yet. This is because a spare is worth 10 plus the next ball bowled, so the bowler must bowl the next ball to add up the score.

![Spare Frame Diagram](image)
**A Miss Frame** - A bowler misses all the pins with the first ball bowled then knocks down 7 pins on the 2\textsuperscript{nd} ball bowled (shown in the illustration below left).

A bowler knocks down 7 pins with the first ball bowled then misses all the remaining pins on the 2\textsuperscript{nd} ball bowled (shown in the illustration below to the right).

![Illustration Showing a Miss Frame](image)

**A Gutter Ball** - A bowler rolls their ball and it enters either gutter on the sides of the bowling lane. The bowler receives a zero for that ball bowled and it is marked as a miss frame because it is out of play. So, even if the bowling ball bounces back out of the gutter and into the lane, knocking down pins, these pins do not count. If this happens on a first ball there must be a new full set of pins set before the second ball is rolled.

**A Foul** - A bowler delivers their ball and any part of their body goes over or touches the foul line. The ball is disqualified and a zero is counted for that ball bowled.

An (F) is placed in that frame’s score sheet (shown in the illustration below). The (F) can be marked on either a 1\textsuperscript{st} or 2\textsuperscript{nd} ball, depending on which ball the foul was rolled. If the foul is rolled on the first ball (shown below), the balls do not need to be reset, as in a gutter ball.

![Illustration Showing a Foul Frame](image)
**A Split** - A bowler has left pins standing on opposite sides of the lane with more than a ball’s width between them. Some score keepers will circle the first ball’s score in that frame on the score sheet to indicate that the bowler left a split (shown in the illustration below). The circle has absolutely no bearing on the bowler’s score.

![Illustration Showing a Split Frame](image)

That is how you score the FIRST NINE frames in bowling. Now I am going to concentrate on the 10\textsuperscript{th} frame in score a game of bowling.

**The 10\textsuperscript{th} Frame** - If you look at the illustration below, the 10\textsuperscript{th} frame is scored differently then the first nine frames. In the 10\textsuperscript{th} frame you have the chance to bowl up to three balls, depending on if they get a strike or spare. This is why there are three small boxes and not just one.

![10\textsuperscript{th} Frame in Bowling](image)

**10\textsuperscript{th} Frame in Bowling**

1. **Strike on the first ball** = bowler gets 10 pins plus the pins knocked down on the next 2 balls.
2. **Spare on the second ball** = bowler get 10 pins plus the pins knocked down on the 1\textsuperscript{st} ball bowled.
3. **Open Frame** = bowler get an open frame or does not get a strike or a spare. The bowler will get credit for the pins knocked down and the game is over.
Examples of the 10th frame

Strike on First Ball = the bowler has a score of 140 in the 9th frame. The bowler then bowls a strike with the first ball of the 10th frame. Now the bowler is given 2 more balls, or another frame like the first nine. With the next ball, the bowler knocks down 8 pins and then has an open on his next ball (shown in the illustration below). The bowler’s ending score will be a 158.

The 10th frame is added up like this: The strike gave this bowler 10 plus the next two balls bowled.

\[140 \text{ (frame 9)} + 10 \text{ (strike)} + 8 \text{ (next ball)} + 0 \text{ (last ball)} = 158\]

Strike on the First and Second Ball = the bowler has a score of 140 in the 9th frame and bowls a strike on the first ball in the 10th frame. Now the bowler is given 2 more balls. The bowler bowls another strike to make a double and then knocks down 9 pins with their third ball (shown in the illustration below). The bowler’s ending score is a 169.

The 10th frame is added up like this: 10 plus the next 2 balls bowled for a strike.

\[140 \text{ (frame 9)} + 10 \text{ (strike)} + 10 \text{ (strike)} + 9 \text{ (last ball)} = 169\]
**Spare In the 10th Frame** = the bowler has a score of 140 in the 9th frame. The bowler knocks down 8 pins with the first ball of the 10th frame. Then, on the 2nd ball of the 10th frame, they spare (knock down the remaining pins). The bowler now gets an additional ball because a spare is scored as 10 plus the next ball. On this next ball they knock down 9 pins (shown in the illustration below). Their ending score is 159.

The 10th frame is added up like this: 10 plus the 1st ball for a spare.

\[
140 \text{ (frame 9)} + 10 \text{ (spare)} + 9 \text{ (last ball)} = 159
\]

**Open in the 10th Frame** = the bowler has a score of 140 in the 9th frame, then in the 10th frame, knocks down 6 pins on the 1st ball. On the 2nd ball they knock down 3 pins to leave an open frame. Additional balls are not required for scoring so there are no bonus balls (shown on the illustration below). Their ending score is 149.

\[
140 \text{ (frame 9)} + 6 \text{ (first ball in 10th)} + 3 \text{ (last ball)} = 149
\]
**Scoring a Whole Game of Bowling**

Now that we have the basics we can run through a sample game. If you are able to follow these steps frame by frame then this should be easy for you to score your own game.

**The First Frame** - On the first ball you knock down 7 pins and pick up an easy spare (shown in the illustration below).

**Note** - You can not add up the frame because this is on a spare ball. A spare is worth 10 plus the next ball.

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**The Second Frame** - On your first ball of the second frame you bowl a strike (shown in the illustration below). Because you had a spare in the first frame you can now add the 10 pins from your spare to the 10 pins from the strike in the second frame. This is how it is added up: 10 (spare) + 10 (strike) = 20 total score for the 1st frame.

**Note** - You can not add up the second frame because this is on a strike ball. A strike is worth 10 plus the next 2 balls.

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The Third Frame - On your third frame you knock 9 pins down on your 1st ball and then you miss the remaining pins on the 2nd ball and get an open frame. On the score sheet you put the 9 in the space and the "-" in the box (shown in the illustration below). Now you can get your total score for the 2nd frame.

20 (first frame) + 10 (strike) + 9 (first ball) + 0 (second ball) = 39

And you can also total your 3rd frame because an open frame does require extra balls to tally. 39 (2nd frame) + 9 (3rd frame) = 48

The Fourth and Fifth Frames - On your fourth and fifth frames you get 2 strikes in a row, called a double (shown in the illustration below). You draw an “X” in the small boxes in each frame but can not add these up yet - because a strike is worth 10 plus your next two balls bowled.
The Sixth Frame - On your 6th frame you knock down 8 pins on the first ball and spare the second ball. You put the “8” beside the small box and the “/” in the small box (shown in the illustration below). You can now add up the double that you had in the 4th and 5th frames using the “8” count from the 6th frame.

The 4th frame adds up like this: 48 + 10 + 10 + 8 = 76

48 (3rd frame score) + 10 (pins from strike in 4th frame) + your next two balls (a strike worth 10 pins and 8 pins from the first ball thrown in frame 6)

The 5th frame adds up like this: 76 + 10 + 10 = 96

76 (4th frame score) + 10 (pins from strike in 5th frame) + your next two balls (a strike worth 10 and a spare in frame 6, which took two balls and is worth 10)

Once again, you can not add up the 6th frame - because a spare is 10 plus the next ball bowled.

The Seventh Frame - On your 7th frame you knock down 7 pins on the first ball and miss to get a open frame (shown in the illustration below). You can add up the spare from the 6th frame plus the 7 pins of the first ball in the 7th frame.

The 6th frame adds up like this: 96 (5th frame) + 10 + 7 (next ball) = 113

The 7th frame adds up like this: 113 (6th frame) + 7 = 120
**The Eight and Ninth Frames** - On your 8th and 9th frames you get two strikes in a row, for another double (shown in the illustration below). You put an “X” in the small boxes for each frame and you will get a 10 for both the 8th and 9th frames. But, you can not add these up yet - because a strike is worth 10 plus the next two balls bowled.

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**The Tenth Frame** - On your first ball you knock 6 pins down. You may now add up the 8th frame and it would look like this:

\[120 + 10 + 10 + 6 = 146\]

146 goes in the 8th frame. Then you bowl a spare on your second ball of the 10th frame. You can now add up the 9th frame and would be scored like this:

\[146 + 10 + 10 = 166\]

You finish the game with a strike using your last ball of the 10th frame (shown in the illustration below). You would add it like this:

\[166 + 10 + 10 = 186\]

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A 300 game consists of 12 strikes in a row starting in the first frame (shown in the illustration below). By examining the score below you can see how the 300 game is scored.
The Most Important Thing In Bowling

What is the most important thing for higher scores? I can sum this up in one word...SPARES! Beginner to advanced players, spare shooting is still the most important part of the game of bowling.

It can cost a professional a match in tournaments or be the one thing that keeps you from achieving that new target score. Doing a simple calculation, one missed spare costs a player 11 pins. This is usually pretty close and a fair ballpark number.

If I were to be on track for a clean 200 game but bowl an open frame or miss a spare, I would roll a 189. I know it sounds basic, but it is true, spare shooting is still the most important part in bowling.
How to Shoot Basic Spares

After you have learned the Four Step approach and the basic targeting or line bowling for a strike shot, you are ready for basic spare shooting. This is often overlooked or taken for granted, yet is preached to bowlers by coaches over and over again. I think one reason we take spares for granted is there is not the same gratification in knocking down a spare as rolling a strike.

Three or four open frames can cost a player 10 to 20 pins for each missed spare. If I had picked up those spares, what would my score have been? Bowlers, at the beginner level, should take spare shooting almost more seriously than rolling a strike.

The golden rule for spares is to move your feet in the opposite direction of your spare. If you are right-handed and you leave the 7 pin, you should move about 9 or 10 boards right on the approach with your feet and roll your ball across your strike spot, following through toward the pin. The same is true of the 10 pin; move 9 or 10 boards left and shoot cross lane at the pin.
The same is true for the 3 and 6 pin area (or 2 and 4 pin area) except you don’t have to move your feet quite as far. For the 2 and 4 pins, move your feet right half the distance of your 7 pin. So if you move your feet 10 boards right for the 7 pin, you would now move them 3 to 5 boards and roll your ball cross lane following through towards your target pins. The same is true for the 3 and 6 pins. Move your feet left about half the distance of your 10 pin shot and shoot cross lane at the 3 and 6 pin area.

It will take some trial and error for you to find your comfort zone so practice, practice, PRACTICE.
CHAPTER TWO

INTERNEDATE

You should have a basic understanding of the game at this point. In the Intermediate chapter we will start to get a bit more technical and will begin to understand the cause and affect associated with improved scoring. We will start with describing the principals of ball motion, continue through lane conditioning and begin to discover ways to make the necessary adjustments needed to improve your scores.
The Study of Bowling Ball Motion

There are three basic stages, or zones, a bowling ball must go through when delivered towards the pins. The bowling ball motions are as follows:

1. Slide – A bowling ball will first slide down the lane after it is released by the bowler. This happens in what is known as the head portion of the lane.

2. Hook – After the slide zone the ball will transition into a hook zone.

3. Roll – Following the hook zone, a ball will transition into a roll stage.

The bowling lane conditions and the bowling ball motion must match, for the best possible reaction.

If a ball slides, hooks, or rolls too early you can experience roll-out. If roll-out is too early the ball straightens out too early. If a ball slides, hooks, or rolls too late it will never grab the lane and could skid out. A bowler should study a ball rolling down the lane and realize that these stages happen. We will cover all of these things later in the book, but the study of bowling ball motion is essential to becoming an intermediate or advanced player.
Roll-out

Roll-out is when a bowling ball has gone through all four stages of delivery (slide, transition, hook and roll) only to roll straight at the end of the lane and lose all of its energy.

This is more common with the newer high performance reactive resin bowling balls and happens when one of the first three stages of delivery is cut short (slide, transition or hook). The “coverstock” of the ball ends up grabbing the bowling lane too early, the core or weight block of the bowling ball stands up and the ball starts to roll end over end causing the roll out bowling ball reaction or motion.

However, roll-out is not always bad because it can increase pin carry. A roll-out reaction can give you that heavy end over end roll that can be very beneficial for pin carry if it happens just before the ball enters the pocket. Ultimately, timing is everything.
Understanding Bowling Lane Conditioning

The stages of bowling lane conditioning are something most bowlers and many pro shop operators know little about.

Terms used in Bowling Lane Conditioning:

1. Heads – first fifteen to twenty feet of the lane
2. Mid-lane – the next twenty to forty feet of the lane
3. Backend – the final forty feet to pin deck
4. Pin Deck – place where pins are spotted

More conditioner is applied on the "heads" because of high traffic in the "drop zone". Keeping the heads conditioned also keeps the ball from hooking or rolling too early in the delivery.

After the ball goes through the heads it needs to slow down so that it can hook. It must transition gradually in the mid-lane. That's why the conditioner must be gradually tapered from the heads to the back end. As the conditioner tapers off, the back end dries and allows the ball to grab the lane, hook towards the pocket and crash through the pin deck.
The Heads and Side Area

The Mid lane and Transition and Hook Area

The Backend and Roll Area

Approach

An example of a length wise taper of a bowling lane condition

Pindeck
Different Conditioning Methods

Crosswise Blend

Years ago they conditioned bowling lanes using various methods and included using a rotary buffer with a burlap pad to a bug sprayer and a lane cloth. Even in the early stages of the lane oiling machines, the conditioner was dispersed pretty evenly from side to side. What they discovered was after a few frames of bowling, the high traffic middle portion of the lane ("track area") would lose conditioner and you would end up with a drier middle and oilier outside. This drying out would not only cause the ball to hook much sooner but would also result in more wear and tear on the lane itself.

To prevent this from happening bowling centers started to put more conditioner in the center of the lane and not as much on the outer edges creating the Crosswise Blend you see below.

An example of a crosswise blended bowling lane from outside edge to the middle.
**Blocked Lane/House Shot**

The crosswise blend is what we are supposed to be bowling on today however, the birth of the newer lane oiling machines enabled the lane men to produce a much more consistent lane condition that would make scoring much easier. This “blocked lane condition” was produced very easily with only a few modifications to the oiling machine. By “blocking” conditioner from side to side in the middle portion of the lane and leaving the outside edges dry, a bowler could now count on a much more consistent reaction.
**What Is Carry-down?**

Carry-down is a term that is used as the bowling lane conditioner/oil moves or migrates down lane as bowling balls are rolled on the lane throughout the day/night. This can be more prevalent in centers that use heavy amounts of conditioner and or feature synthetic lanes.

It’s helpful to understand that conditioners have a few basic characteristics. They are thickness or viscosity and surface tension (how well it stays put.) Because conditioners vary from brand to brand, one could see a breakdown in the conditioner itself and experience carry-down more quickly. The center will generally try to choose the best conditioner for the lane surfaces they have.

Because carry-down is a common occurrence, you may have to move a bit right as this migration happens. As conditions start drying out, you may have to move back to the left. (for right handed bowlers) This is why you can see a good first game, bad second game, and good third game or a bad first game, good second game, and bad third game. This inconsistency is very common in centers that experience a lot of conditioner migration.
Playing the Lane Conditions

Here is a mistake I see a lot of bowlers make. They try to play every lane the same. The truth is that not all lanes are the same or have the same characteristics. One lane may act slicker or drier, one end of the house may play tighter then the other end, and a lot of factors can influence this:

1. Topography of the lane.
2. Age of the center.
3. Weather outside.
5. Part of the country you are in.
6. Type of lane surface.
7. The order in which the lane man starts conditioning the lanes.
8. Time of day you bowl.
9. The lighting in the center.

Because no two lanes are the same and conditions constantly change, one should learn to play each lane individually. This is why you will sometimes see a professional use one bowling ball on one lane and another on the next.
Determining A Sport Or House Pattern

Here is a way to determine if your playing on a sport or house pattern. It works well if you go to a tournament or sub in a strange house.

During your practice or your warm ups, simply roll a couple shots outside towards the 7th board. If the ball travels straight and doesn't hook, the outside boards have more conditioner and you are probably on a sport pattern. If the ball hooks, the outside is dry and is an indication that you are playing on a house pattern.
Bowling Lane Play - The 3 Basic Lines

There are 3 basic types of bowling lane lines; open, medium, and direct. (Note - this is for right handed bowlers – reverse everything for left handed bowlers.) Choosing one of these lines will depend on how much you hook the ball and the lane conditions before and during your game.

1. Open Line - The open line is inside from the 14th board on the bowling lane. The ball angle is directed toward the 6 pin as it is released. High revolution bowlers who really hook the ball like this angle most the time.

2. Medium or Indirect Line - The medium or indirect line is from the 13th to the 8th board, or the track area, on the bowling lane. The ball angle is a medium line directed toward the 3 and 6 pins as the ball is released. Power strokers or tweener-type bowlers like this line.

3. Direct Line - The direct line is outside from the 7th board on the bowling lane. The ball angle is directed toward the 1 and 3 pins, or the pocket, as the ball is released. Most strokers like this line or angle.
Adjusting for Dry Lane Conditions

As the lane conditions change, you may find it necessary to make some not so minor changes to your approach. When the lanes really dry out you’ll need to “find more oil” and it will require you to not only move left (for right handed bowlers) but also to change the angle in which your ball rolls over your aim point. This will require you to change the angle of your body and feet. You may also need to walk your approach in that direction or “fade” toward your target. This will help you get the ball out and down the lane. You will have to trust that the ball will come back. You do not want to get it out too wide or the ball will not recover.

Another method for combating drier lane conditions is to loft your ball further down the lane in your delivery. Here you will feel as if you are literally tossing the ball out onto the lane instead of rolling it. By lofting the ball a few more feet onto the surface, you will be reducing the amount of time the ball spends on the lane therefore reducing the amount of hook typically caused by drier conditions.
Tips For Increasing Pin Carry

Tip #1 If you don't have a finger tip ball you may want to consider upgrading to one. The extra revolutions you can get from this type of grip can give you more action at the pocket.

Tips #2 If you have a finger tip ball and don't use rubber finger grips you may want to consider putting them in your bowling ball. They can help give you more lift which can give you more action at the pocket.

Tip #3 If you use the rubber finger grips, have them checked. If they are worn out, get new ones; they are not that expensive and can give you the extra revolution you need to carry a strike instead of leave a pin. I have seen new grips get people out of slumps. As a rule, change your grips about every 100 games. If you bowl once a week, change them once a season...if you bowl twice a week, then change them twice a season and so on...

Tip #4 Use rosin on your fingers before your strike shot.

Tip #5 Make sure you lift at the end of your release. The trick to carrying a strike or leaving a pin may be in your finger lift.
The Elusive 10 Pin

There are two different types of 10 pins in bowling. Let the 6 pin be your guide when trying to identify where to make a change.

The Flat (or Weak) 10 Pin - If the 6 pin is lying flat in the gutter, it is a flat 10 pin. There are two reasons why this happens. Either the ball has never gone into a roll or the ball has rolled too early and lost all of its energy before it gets to the pocket. If you are leaving a flat 10 pin, you need more angle or a ball that breaks later and sharper. You can do this with a change in the ball surface, hand position, type of ball, ball drilling layout, or a change in ball speed. If the bowling ball is rolling too early, you need to roll it harder. If it is skidding or not going into its roll, you may need less ball speed.

The Wrap (or Ringing) 10 Pin - If the 6 pin flies around the 10 pin, it is a wrap or ringing 10 pin. This occurs because the ball rolls into the pocket with too much angle or too much speed and the bowling ball does not have enough end-over-end roll. A reason for this may be you are rolling the ball too hard. If you are leaving the wrap 10 pin, you normally need earlier roll or more end-over-end roll. You can do this with a change in ball surface, hand position, reducing your ball speed, type of ball or ball drilling layout.

The 10 pin is one of the most dreaded and feared spares to convert. It is also one of the most common pins left standing in the sport of bowling. There are several methods and theories on how to convert this spare and you just need to find the one that works best for you.

1. Find your strike spot on the approach then try counting 10 boards to the left of that spot (for right-handed bowlers). Move your feet to that spot and aim three boards left of the middle. Roll your ball over that spot toward the pin using a flat release position (shown in the illustration below). Use the same ball as your strike ball.

2. Try using a plastic bowling ball. This is a very popular method for many bowlers. The low friction coverstock of a plastic ball won’t grab the lane and allows the bowler the ability to skid the ball to the 10 pin.

3. Use a lighter bowling ball. This acts the same as using a plastic ball - the weight of the bowling ball allows you to take the lane out of play and roll it harder.
4. Use a conventional grip ball instead of a fingertip. It is also the same concept as the plastic and lighter weight ball methods. The conventional grip will not hook as much as a fingertip due to the shorter span of the bowling ball.
Carrying More 10 Pins

Generally, a 10 pin remains standing because the angle in which your ball entered the pocket and the moment your ball began to roll-out was just a bit off. By adjusting your approach you can adjust the angle and roll-out point and in most cases increase your 10 pin carry.

By simply starting your approach a half step closer to the foul line you will decrease your approach angle and delay the roll-out a fraction. On the other hand, by starting your approach a half step further from the foul line you will be increasing the entry angle and causing the roll-out to occur sooner.

Every lane is different and conditions constantly change, so it may take some trial and error to determine which approach works best during a given game.
As we move into the advanced section of the book we are really going to start “splitting hairs”. We will talk about the very minor adjustments that can be made to help improve your shot and ultimately raise your average. It’s very important to understand that the following pages contain a ton of material and if not careful, a player can find themselves overloaded with information. In no way should someone try to implement more than a few of these strategies at one time. Many of these techniques are intended to be mastered over many, many practice sessions and should only be implemented once a player has a very strong understanding of basic and intermediate fundamentals.
Controlling Your Ball Speed

The speed of your ball directly effects its reaction as it travels down the lane and approaches the pocket. Having the ability to vary your ball speed allows you control the ball reaction and time your break point. This in turn, will make it possible for you to increase or decrease your entry angle into the pocket. Adjusting the entry angle can be the difference between carrying all ten pins or being faced with multiple single pin spares.

Many players simply use “muscle” to either throw the ball harder or take a little off of the shot. However, when using a pure pendulum stroke, the easiest way to control your speed is to adjust your approach to the line. By pushing the ball up and out farther in your initial approach you will be adding more arch to your pendulum causing more ball speed at delivery. On the other hand, gently allowing the ball to fall from a lower hand and ball position will minimize the arch and cause a slower ball speed at delivery.

Having control of your speed is a skill developed by many above average bowlers and one mastered by the professionals. Learn to control your speed and you’ll be well on your way to higher scores.

A Drill for Increasing Ball Speed

Take an empty milk jug and fill it with water. Make sure the lid is tight. In a stationary position, swing the jug as if you are swinging a bowling ball. Start from your push away all the way to making sure you extend in your follow threw.

If a milk jug is too heavy find a smaller bottle or do not fill it as full, if you need something heavier use a dumbbell. I do not recommend using a bowling ball though. Rehearse 10 to 20 swings a day and you’ll be sure to see your ball speed increase.
How to Change to the 5 Step Approach

This is really a more advanced bowing technique that is used by some as they progress in the game. Players find that they may improve their rhythm and power using this longer approach.

For review, here is a quick description of the proper 4 step delivery for a right handed bowler.
1. First push the ball out a little and your right foot steps forward.
2. Second step the ball falls and your left foot steps forward.
3. The third step the ball begins its pendulum swing and your right foot steps forward.
4. The fourth step you slide on your left foot and roll the ball down the lane and to the pins

The 5 step approach is very similar with just a few small differences.
1. Your first step is a small shuffle step with your left foot and the ball stays in place.
2. Second step you push the ball out a little and your right foot steps forward.
3. The third step the ball falls and your left foot steps forward.
4. The fourth step the ball begins its pendulum swing and your right foot steps forward.
5. The fifth step you slide on your left foot and roll the ball down the lane and to the pins
Changing Hand and Finger Positions to Affect Roll

There are three main wrist positions and three main hand positions used in the sport of bowling. Changing position causes the bowling ball to have earlier roll or later roll. It can also cause different angles to the pocket and cause the ball to hook or roll at different spots on the bowling lane. At times, adjustments can compensate for bowling ball speed problems.

The Cupped Wrist Position - The cupped position is when your wrist is curled so that your fingers and hand are angled upward in a 45 degree angle. This causes the bowling ball to roll sooner. It also gives you an earlier break point. Most crankers or high revolution bowlers like this wrist position. This is best used on oilier lanes or if you are leaving a lot of wrap 10 pins.

The Straight (or Flat) Wrist Position - The straight position is when your wrist is straight. There is no break upward or downward. This release is a starting position. It is a release that should be used most of the time. You should then adjust from this point. This is a medium wrist position that most straight bowlers or strokers prefer.

The Broken Wrist Position - The broken wrist position, or release, is when your hand and fingers angle down toward the ground and your wrist is broken. This release position is used when you want to delay the break point or if you want to get the ball down lane before it hooks. It is also used to get through the heads (the heads are the first part of the bowling lane). This release can compensate for ball speed or for drier lane conditions. I have seen famous professionals use this release a lot.
Using different combinations of these positions will affect the ball roll. These positions can help the bowler with the following:

- Get more skid, slide or delay the ball so that it will transition, hook and roll later on the bowling lane.
- Get the ball to roll up sooner by shortening the bowling balls skid, slide to transition and hook earlier.
- Control the spot and time the ball goes into its roll.
- Get more or less revolutions on the bowling ball itself.

The ability to have slide and roll control can aid greatly in increasing the bowlers pin carry.

The 12 o'clock Release - With the 12 o'clock, or 10 degree, release. As you hold your ball, your thumb comes straight up with no (or very little) side turn. Your hand and thumb will be at the 12 o'clock position as you release the ball. This release will give the bowling ball a lot of end over end roll. It causes the bowling ball to delay its break point. This release is used on drier lanes and to help get the ball down the lane before it hooks. (Note: this is also called a 10 degree axis rotation).

The 10:30 Release - With the 10:30, or 45 degree release, as you hold your bowling ball your hand is turned horizontal and your thumb is pointed at 10:30 on a clock, or at a 45 degree angle. This release is the most common. It also should be used as a starting point. This release gives the bowling ball a slight inward turn toward the 7 pin. (Note: this is also called a 45 degree axis rotation).

The 9 o'clock Release - With the 9 o'clock, or 90 degree release, as you hold the bowling ball your hand is turned horizontally to the side facing 9 o'clock. This release causes the ball to have a lot of spin. It sometimes causes what we call, “a spinner”. This means the bowling ball is spinning like a top. It also has very little ball to lane surface contact. This ball will not have much hook or drive as it rolls down the bowling lane. When it hits the bowling pins it may hit dead with not much action. (Note: this is also called the 90 degree axis rotation).

Try these basic wrist combinations before changing bowling lane lines, or even changing bowling equipment, or bowling ball layouts. Changes here may be all you need. Being able to adjust your hand position to the lane conditions will greatly improve your ability to carry the pins. Take some time and go to your center and practice these bowling wrist positions. Take notes about what each one of them does and when they work best for your game.
Affects Of Finger Positions

Always keep in mind that all that is attaching you to the ball are your fingers. A small adjustment in the way your fingers are positioned can have a dramatic affect on the reaction of your ball as it travels down the lane.

Here are four basic finger adjustments:

Wide Index Finger – This will cause an earlier roll with a more end over end reaction. This can cause a slight roll-out but should help you to carry more pins.

Wide Index and Pinkie Finger – This will cause same type of reaction as the wide index finger but will cause a more dramatic affect.

Wide Pinkie Tight Index Finger – Causes a delayed roll and puts more weight of the ball on the track side. This position tends to create a more angular back-end.

Fingers in Tight – Causes the same type of reaction as the tight pinkie, but more of it. This will create a more angular reaction and tends to delay the balls roll as well.
**Methods for Getting Your Ball to Roll Sooner**

If you’re having trouble getting the ball to the pocket or if you are at the pocket and you need some help carrying more pins, you may need to get your ball to roll sooner in those final few feet.

To accomplish this, the ball needs to complete the slide and hook transitions sooner to allow for the proper roll. We can accomplish with a sooner and smoother transitioning drilling pattern, a coverstock that slows the ball speed down or simply by setting the ball down sooner in your delivery.

A couple good techniques for setting the ball down sooner is moving your mark or target closer to you. Some will aim a foot or two closer and some may even try a target so close that they lay the ball down prior to the foul line.

All of these techniques and or changes will allow your ball to proceed through the first two stages of delivery more quickly and in turn allowing more roll in those final few feet.
Advanced Ball Drilling

To have a clear understanding of ball drilling and how it affects the roll of the ball, it’s important to have a basic understanding of the ball manufacturing process.

Manufacturing begins with the ball core and melted cover stock. A pin is used to hold the core in place while the ball is being molded. After the melted cover stock is poured into the mold and the ball hardens, the bowling ball is taken out, the pin cut off and the cover sanded down. Because the pin is usually a different color than the cover stock it acts as an indication of where the center of the weight block is in the bowling ball. This provides the ball driller with a guide when determining the type of roll and amount of hook that will be produced as a result of the hole pattern drilled.

Before we get into the actual drilling here are some terms to keep in mind.

1. Pin or riser pin. = Pin
2. Ball track = BT
3. Positive axis point = PAP
4. Center of Gravity = CG
Track Flare

Track flare is created as the ball rolls. After every revolution, the weight block shifts and causes the next revolution to turn on a fresh ball surface. In theory the fresh ball surface creates more friction between the ball and the lane causing more hook. The oil residue sticks to the ball and leaves behind a pattern indicating your “Track Flare”.

Illustration of Track Flare
There are two basic types of high performance bowling ball cores, symmetrical and asymmetrical. Because of the way these cores are designed they are drilled differently. In a symmetrical bowling ball, the ball driller uses the center of gravity as a guide for fine-tuning the bowler's drilling layout to their style. In an asymmetrical bowling ball, the center of gravity is discarded and the mass bias, or the positive spin axis, is the guide for fine-tuning.

Now, how does this mass bias affect the bowler's ball motion? Let's take an undrilled bowling ball and put the pin so that it is 5 inches from the bowler's positive axis point. For me it would be under my ring finger. Then we would put the mass bias under the pin stacked and should be beside my thumb about an inch then we drill the ball.

This bowling ball would have a long, late and angular motion with a fast revving up action on the back part of the lane. Now let take another ball put the pin in the same spot 5 inches from our pap, note I am using pin below layouts here, now lets angle the mass bias at a 45 degree angle toward our positive axis point.

This would put the mass about 3 inches to the right side on our thumb hole. Now the reaction we will get is a much earlier and faster revving ball with a smooth bowling ball motion down lane. Please don’t get me wrong I am not telling you to get balls drilled this way I am just trying to help you understand how this affects your bowling ball motion.

As a basic rule the closer your mass bias is to your track the slower, longer and later your transitions will normally be. The closer your mass bias is to your positive axis point the earlier, smoother and faster your transitions. By adjusting the position of the mass to your style the ball driller can, to a degree, give you an element that is lacking in your physical game.
CHAPTER FOUR

PRACTICE

Practice always has and always will be the key to CONSISTANCY. Sure you may bowl some great games here and there and maybe even carry a higher average than most but to really become a consistent player, you must put in the time.
How to Practice Bowling

A good way to practice the game of bowling is to look at it as if you are on a football or baseball team. In these sports they only practice a piece of the game, not the whole game, to get ready for their next event. Baseball has batting practice then fielding practice. Meanwhile, the pitcher is working mainly on pitching. You should practice bowling in the same manner.

You should have a routine to practice when you are getting ready for a league or tournament, or you are just having trouble with a part of the game (like picking up the 10 pin).

Try a routine like this; one game of strikes shots, one game of 10 pin shots, then one game of 7 pin shots and so on. This works, but it can get boring. So, what I recommend is either at the end or at the beginning of your practice session, divide the game up into spare conversions with which you are having trouble. I usually do this after I am done keeping score. I will roll a game practicing 5 frames of 7-pins and then 5 frames of 10-pins.

Here is a Routine for Practicing Bowling
1. 5 Shots at the 10 pin.
2. 5 shots at the 7 pin.
3. 5 shots at the 2,4 pins.
4. 5 shots at the 3,6 pins.
5. 5 or 10 shots at your strike ball.
When to Practice

Try to practice four games, two to three times a week, depending on how often you bowl in league and how much you can afford. But, try not to practice the day before league. You do not want to wait until the day of league to go out and practice bowling as you will expel your energy at the wrong time.

The best day to practice is two days for league play or two days before a tournament. I suggest you bowl a lot on this day and sometimes go over the four games and even bowl a little extra. This is the most important day for practice as you are expelling your energy or emptying your cup, so it can fill up again. On game day you will have fresh energy and good muscle memory for league.

I am not saying you can’t bowl well if you practice on other days, but it is not advised. Timely practice sessions will help you maintain the optimum feel and rhythm.
Take Videos for Better Bowling

Videos can really help you become a better bowler. I know video is nothing new, but if you have never seen yourself bowl, you will be in for a surprise. You probably look nothing like you think you do, at least, that was my first impression of my video.

If done properly, it can greatly improve your accuracy, form, and technique. Taking videos from different angles will show, not only how accurate you are, but other things like timing, release, and follow through.

Buy or borrow a good HD camcorder and tripod; HD is much clearer and will provide the best results. I found my camcorder online for around $150. You can also find small tripods for about $10...I use a 7-inch table top model. Lastly, you'll need a memory card.

I like to take videos from behind the bowler, about chair high and a little off to one side. Point the camcorder in a straight line showing the whole lane and pins. Then try recording from different angles to really capture, and improve upon your physical game.

This may not be for your recreational bowler, but if you are a coach, tournament bowler, beginner, or in a league and want to get better, video should be strongly considered.
How to Stay Flexible

This is a tip for bowlers to get lower at the foul line if you have lost your flexibility because of age or if you are a taller person.

I must note I am not a doctor but am merely giving you some advice so please take care before doing anything that could cause you discomfort or injury.

I was asked recently if I had any tips on how they can get lower at the foul line. This is a common question among older bowlers, because they were not as flexible as they used to be, as well as tall bowlers.

Taller people have trouble getting low in their bowling approach because of the obvious; being tall their legs, back, and body are longer. I suggest that both type of bowler get lower at the knees. A deeper knee bend is the safest way to get down at the foul line. It is just like when lifting to avoid a back injury bend at the knees.

Also, you can maintain flexibility by joining a swim therapy class, especially if you’re older because it is gentle on the joints. But, I am not a doctor, so please take care to avoid injury and consult a physician before starting any exercises...
**Rules To Follow When In a Bowling Slump**

We have all been there and it is no fun. I am firm believer in a few things when it comes to bowling. One is rhythm and timing. Another is having a good mental game. You need a confident attitude when it comes to the game of 10-pin bowling.

Here are a few rules to follow when in a bowling slump:

**Rule #1** - Don’t let one bad night turn into 5 or 10 bad nights. Keep a Positive Mental Attitude (PMA) and don’t give up! Better to have a semi-bad game or semi-bad night than to throw your hands up in the air altogether...because there’s always next week.

**Rule #2** - Don’t make big changes. An inch is better than a mile in a bowling slump. Small moves are better than big ones, or less is more.

**Rule #3** - Get back to the basics. One thing that has helped me the most is to forget about striking every frame and just be happy with a clean game. Usually when I do this my slump is soon gone.

**Rule #4** - Get some new equipment. I know it sounds like the easy way out, but in today’s game the newer the bowling ball, the better the scores. If not a new ball, it could be new inserts in your old ball, or a new grip, or a new pair of shoes. One year I was in a terrible slump and I got a new ball and raised my average 15 pins from halfway through the season.

**Rule #5** - Stop watching everyone else. This is easier said than done, but does work. Just start playing your own game. Visualize each shot, from the release to follow through, making sure your see your ball roll over my intended target with perfection.

**Rule #6** - One ball at a time. Stop looking at the outcome and look at it frame by frame. I used to call this technique, “Grinding it Out” but now I just call it “One Shot at a Time”. In order to get into this mode, just focus on rolling one good shot at a time and try not to think about your ending score. This is harder than it sounds, but I know this is a technique a lot of top bowlers and professionals use effectively to turn around a slump.

**Rule #7** - Don’t get too many opinions. Some advice is good, but too much is bad and can really mess you up.
CHAPTER FIVE

Equipment

There are very few sports where equipment can play such a large part in your success. Having a properly fit ball and appropriate accessories can literally be the difference between rolling a 150 and a 200 game. The following pages will introduce you to the many different aspects of equipment selection as well methods for maintaining your new “weapons”.
Simple Rules When Choosing a New Bowling Ball

Rule #1 - For kids a basic rule is their age equals the ball weight. For example, an 8 year old would use an 8 pound bowling ball. This is a good guide for average children up until age 14.

Rule #2 - After age 14 use the heaviest bowling ball you can handle with comfort. Remember, the lighter the ball the more advantage the pins have. A bowling pin weighs about 3.6 pounds. If you take that times 10, that means the total weight you are trying to knock down is about 36 pounds.

Rule #3 - What type of bowler are you? Are you a straighter bowler with less revolution or a cranker with more revolution? Do your speed and rev rate match? These are important considerations before you buy your next ball to get the right type of ball for your style. Generally, a straighter bowler will use a smoother-arcing, control ball with a solid coverstock. High rev rate bowlers will get the long and strong or skid/flip balls.

Rule #4 – What lane conditions are you bowling on? This is an important part of picking out the right ball. Are your lane conditions oily, medium, or drier? What type of oil pattern are you bowling on? You want to match the type of bowling ball to the lane condition.

Rule #5 - Surface of the bowling lane. Are you on old wood lanes or new synthetic lane surfaces? If it is wood, then what type of lane finish is it, water-based or an epoxy urethane based finish? Normally you can tell an epoxy urethane because it is shiner and harder than the water-based finish. You can also ask the lane man at your center if he knows the type. If it is a synthetic lane surface, is it Pro Anvilane by Brunswick or HPL by AMF Bowling (these are the 2 main types of synthetic bowling lane surfaces)? A basic rule is wood finishes are softer and synthetic surfaces are harder. Most the time synthetic lanes are slicker at the start of the night and the conditioner will not soak in like on a wood surface. Most of the newer bowling balls are tested on synthetic lane now days.

Rule #6 - Surface of the bowling ball. This is an important factor because there are so many different types of bowling ball surfaces in today’s game. A rule of thumb is a dull ball surface = smooth and control. A shiny ball surface = snappy or long and strong. Dull bowling balls will be more consistent and a shinny bowling ball will be more erratic, but that is not always a bad thing. If your center has dry
back ends, a shined, pearl ball might work well. A little too much carry
down and a smooth, duller surface may do well.

**Rule #7** - Core design of the bowling ball. There is 3 main types of
core design – a 3-piece design, a 2-piece symmetrical design and
today’s new asymmetrical bowling balls. As a rule, the 3 piece bowling
balls are a lot cheaper and are good for the beginner bowler most of
the time. The 2-piece symmetrical balls are usually more center
heavy with an earlier roll and a smoother reaction. The asymmetrical
bowling balls can be fine tuned to match your rev rate and your speed.
The asymmetrical are usually for more advanced bowlers.

**Rule #8** - Where to buy your new ball. A lot of pro-shop operators
want you to buy your ball from them, but you will pay a lot more.
You can get the same quality bowling ball from an online dealer. I
recommend you buy your ball online then have your local pro-shop
drill the ball. You will save some money and not have any loss in
performance.
Bowling Towels Things You Should Know

Not all bowling towels are created equal!

I used to think that all bowling towels, like the ones purchased at state tournaments or the ones with ball company emblems on them, were just as absorbent as a traditional micro fiber towel, but the truth is, they are not.

What you are looking for in a towel is one that will absorb lane conditioner well and some of these towels tend to repel water and conditioner more. I feel they make good memorabilia and a great novelty but they are also more expensive. Save your money and stick with a true, micro fiber towel for the best performance.
How to Choose a New Bowling Bag

Making sure you have the right bowling bag for your needs may not be a tip, but here are some things for you to consider and make your selection process easier.

How many bowling balls do you have? If you only have one bowling ball, keep your bag small to eliminate unnecessary weight. You do not need a big, expensive bowling bag. On the contrary, if you have a lot of bowling balls, get the bigger, high quality bag in increase your carrying comfort.

There are many different styles, from totes to 6 ball roller bags, inline to streamline. When considering a roller bag look at the wheels. The wider the wheel the more sturdy they are. Narrow wheels may trip going up and down steps. In addition, make sure you get a strong handle.

Not all bags have compartments for shoes. How many pair do you have? What are you needs for compartments? Where do you want them located? On the side, top or inside the bag? How often do you bowl? Do you only bowl once a week or once in a while? Do you bowl in tournaments or a lot of leagues?

There are a lot of bowling bags out there at great prices so consider the price and get the best bag you can afford. Find a bag that fits both your style and your needs.
Bowling Shoes for a Better Game

With bowling shoes, it is not so much the brand, but the style of shoe that is important. The better made shoes are stitched and not glued. Make sure you get the right size! I recommend going to a department store before ordering your shoes and having your foot measured. You can order shoes for wider feet (blucher style) and they also come in different materials, like vinyl and leather. Do your research!

The Shoe Brush - Horizontal
Here is a trick that you can try if you are over-sliding. Take a wire shoe brush and scuff the bottom of your shoe horizontally from the inside to the outside on the leather part of the shoe. This will make the bottom of your shoe go against the grain and will add more traction. This will help slow down your shoe so it will not slip as much.

The Shoe Brush - Vertical
Here is a trick that you can try if you are under-sliding. Take a shoe brush and scuff the bottom of your shoe vertically starting at the toe and scuff toward the heel on the leather part of the shoe. This will put the shoe grain on the bottom in line with the angle of the slide and create less resistance and a smoother slide.

Bowling Shoe Covers
Keep your bowling shoes dry. Shoe covers are a must have in keeping your shoe bottoms in good condition. If you have to use the bathroom, get a drink or run outside, just slip some bowling shoe covers on so your shoe bottoms stay dry.

Easy Slide or Power Slide
Easy Slide and Power Slide Compounds
Some centers will not allow you to use easy slide, power slide or any type of powder on your shoes. I, myself am not a fan, but if you must use it I want to let you know the proper way to use it (but I recommend you try the shoe brush trick first).

First, never use baby powder on your shoes! You may slide, but the rest of the bowlers that are not having trouble with this will suffer at your expense.

Take the bag out of the plastic and tap it one or two times on the bottom of your sliding foot (usually once on the ball and once on the heel). Next, rub your shoe into the approach when you are in your pre-approach routine. Do not put your shoe on the tile floor! This is not only dangerous, but inconsiderate to the other bowlers. If you
continually have trouble with sticking or sliding too much then you may need to get better shoes.

**Interchangeable Heels and Soles**

Not all bowling shoes have the interchangeable heels and soles, so before you buy shoes check the bottoms and get a raised heel if you don’t want to spend on interchangables. Shoes with raised heels are usually a little more expensive, but worth it. Your cheaper bowling shoes have a flatter heel which is usually made of rubber, and because the heel is flat, the bottom will drag on the approach and cause you to stick. The raised heel has less rubber to contact the approach so less surface contact and less chance of sticking.

That being said, the next step up is bowling shoes with the interchangeable heels and soles. These shoes cost more, but if you are serious about bowling you need to get the best equipment you can afford. If you have this type of shoe you will occasionally have to buy replacements due to wear, but the advantage is that buying heels and soles are a lot cheaper than buying new shoes.

These shoes can give you a tremendous advantage. They make it able to mix and match the heel and sole to give you the proper reaction for your style. Some bowlers want less slide some want more, some centers have sticky approaches some are slippery.
How to Clean and Maintain a Bowling Ball

As a bowling ball rolls down a bowling lane a few things happen. Oil or lane conditioner soak in the pores on the coverstock, dirt mixes with the lane conditioner and clogs up the coverstock, and the constant rolling smooths out the surface. Because of these things, the bowling ball loses its traction.

This performance loss means we must clean and maintain the bowling ball.

Basic Rules for Ball Maintenance:
1. After every frame wipe off your bowling ball with a micro fiber towel.
2. After every bowling session, use a micro fiber towel and bowling ball cleaner.
3. After every 10 to 20 games rejuvenate the bowling ball surface with an abrasive.
4. After about 50 to 100 games, extract the lane conditioner out of your bowling ball with warm (not boiling) tap water and degreasing dish soap.*

*Heat can cause your bowling ball to crack although this is the best method to get the conditioner out of a used bowling ball. Please use caution when using heat to maintain your equipment

Keep in mind that most of what I am talking about is for newer, high performance bowling balls. Plastic bowling balls only need steps 1 & 2 and maybe polish every 100 games.

Terms Used in Bowling Ball Maintenance:
1. Abralon = A special pad with different grits like sandpaper.
2. Scuffing pad = A special pad that has different colors for different grits.
3. Wet And Dry Paper = A special sandpaper with different grits.
4. Bowling Ball Cleaner = A special cleaner made for bowling balls.
5. Bowling Ball Polish = A special polish made for bowling balls.
6. A Ball Spinner = A machine used to aid in bowling ball maintenance.
7. A Ball Resufacer = A automatic machine used to resurface bowling balls.
8. Microfiber Towel = A special absorbent towel for cleaning a bowling ball.

After Frame Surface Cleaning - Use a micro fiber towel after each frame to concentrate on cleaning the lane conditioner on the bowling ball track. This will help prevent the oil and dirt from being soaked into
the coverstock. It will give you a fresher bowling ball surface for a more consistent ball reaction.

**After Bowling Session Surface Cleaning** - Using bowling ball cleaner in combination with a micro fiber towel after a bowling session will greatly reduce oil abortion. Apply bowling ball cleaner onto your micro fiber towel then use it to wipe off the bowling ball; concentrate mainly on the bowling ball track. Afterwards, wipe the bowling ball dry with a dry part of the micro fiber towel.

**Periodic Surface Rejuvenation** - After so many games or frames a bowling ball surface smoothes out. When this happens the ball looses its teeth. The bowling ball becomes less reactive due to the loss of traction. The loss of reaction can be restored on a reactive bowling ball with an Abralon pad or a scuff pad. Also, certain grits of wet and dry sand paper will work.

Every 10 to 20 games on a reactive resin bowling ball it is recommended you rejuvenate with the appropriate grit of abrasive. This can be done by hand by making the scuffing pads wet with warm water or bowling ball cleaner. Most bowling ball companies will tell you what the out-of-box finish the ball came with is. If you have a polished ball, the polish will wear off and rejuvenation becomes necessary. I explain how to polish your ball in the following chapter.

**Deep Cleaning or Grit Cleaning** -
Today’s bowling balls are like sponges. A sponge can only absorb so much water it needs to be “squeezed” out. Like a sponge, bowling balls can only absorb so much lane conditioner, then we must find a way to extract the lane conditioner. Sometimes, even cleaning and scuffing the surface isn’t enough. I have had the best success extracting oil using warm water in a bucket.* I have tried other methods, but this works best and should be done after every 50 to 100 games.

*Heat can cause your bowling ball to crack although this is the best method to get the conditioner out of a used bowling ball. Please use caution when using heat to maintain your equipment

First, scuff your bowling ball surface down to about 1000 grit abralon pad and get a bucket big enough to hold your ball.

Put the bowling ball in the bucket finger and thumb holes down. Gradually pour in the warm (not hot) tap water. Let the bowling ball set in the water for about 30 minutes. Pour off the water and repeat with a little warmer water this time (not hot but warmer than before).

Once again, let it set for 30 minutes then pour off the water. Do this a third time, using even warmer (as hot as you can get it from your
kitchen sink, but not boiling) and this time put degreasing dish soap in the water. Get it sudsy and let it set in the bucket for 30 more minutes before pouring off the water.

Rinse the bowling ball off and dry with a towel. Let the bowling ball set for at least 3 days. Now bring the surface back to your desired specifications.
How to Polish a Bowling Ball

There are many methods for polishing your ball and many polishing compounds available. The following is one, hand-polishing method. Ball surface management is very important so you will need some basic supplies:

1. Bowling ball cleaner
2. Factory finish polish
3. Abralon pads
4. Small towel
5. Plastic bowl or ball holder to put your ball in (take care to ensure the holder or bowl does not scratch the bowling ball surface)

First, clean your ball with the bowling ball cleaner, as directed on the cleaner.

Next, put your ball in the bowl or ball holder and put about a quarter size amount of factory finish polish on two sides of your bowling ball. With your fingers, smear the ball polish all over the ball in a circular motion. After the whole ball is covered with polish, dry and buff the ball with the towel. You may have to repeat this step until you get the desired look and reaction.

After you have finished polishing, take an abralon pad (I use a 1000 or 2000 grit) and very, very gently go over the surface of your bowling ball. You do not want to take the shine off your ball, you just want to give the ball some teeth. In addition, this will take off any extra polish. Now wrap your ball in a towel and let it set over night.

If you have done it correctly, the ball will be tacky, shiny, and the towel will make a squeaky sound. When you bowl, if your ball goes too long before hooking, scuff it more with the abralon pad. If the ball is too dull, use more polish.

I have had good luck with Ebonite's polish, but that does not mean you can not use the other brands. I have also had good luck with Storm React-a-shine, which is supposed to both clean and shine a ball, but I would still clean it first. The important thing is not so much the brand, it's the method. I would stay away from high gloss compounds and an extra length of polishing.
How to Use Abralon Pads to Surface Your Bowling Ball

If you are serious about the game of bowling, then you need to keep your bowling equipment in good condition. Especially in today’s game, the new, high performance bowling balls are very demanding. These balls require a high degree of maintenance because the coverstock is very soft and absorbs lane oil and because constant bowling smooths the surface and they lose traction. Without proper maintenance, the ball will lose its performance.

If you look at a bowling ball tech sheet, it will tell you the out-of-box finish (example: 1000 abralon or 2000 abralon out-of-box finish). Therefore, you must clean and maintain the surface of your bowling with abralon pads.

Abralon pads are necessary for the serious and even the not so serious bowler because they do a few things. First, they make your ball last longer. Second, they keep your ball surface consistent. Finally, they help you adjust the length of your ball break-point.

Abralon is an abrasive pad, like sand paper, with a foam-type backing. These pads come in different grits and tend to last longer than common sand paper. In addition, they can be used wet or dry to get the desired reaction (I prefer to use them damp – not too wet and not too dry). This reaction will take some trial and error until you find what works best for you, the bowling ball and conditions, but using these pads can lengthen the life of your ball.

There are two methods for using an abralon pad:
1. By hand.
2. With a bowling ball spinner.

The by hand method is what most average bowlers will have to use.

First you need to find out what grit abralon you need for the desired reaction. I have found the 1000 and 2000 grit are the most commonly used so, start out with the 2000 grit. If you find you need it to hook sooner, progress down to the 1000 grit. The same being true, if you need a later reaction out of the bowling ball, go up to a 4000 grit pad.

Use a damp cloth to wipe the ball off and then go over the ball with the abralon pad of choice, using the pad on all four sides of the ball (top, bottom, right and left side) before the ball dries. The ball finish will have a dull haze to it.
When using a ball spinner the process is the same except you will have to get the ball damp after each side. Just run each side for 15 to 30 seconds. You do not need to take the cover off the ball, you just want to maintain the cover of the bowling ball and give it some teeth.

I do mine before every game. You should do them at least every 10 to 20 games for the best performance.

Below is the Abralon Pad chart for your reference.

**Earliest Roll**

- 180 Abralon pad
- 360 Abralon pad
- Burgundy Scuff Pad = to about 400 grit
- 500 Abralon Pad
- Green Scuff Pad = to about 600 grit
- Gray Scuff Pad = to about 800 grit
- 1000 Abralon Pad
- Gold Scuff Pads 1200 Grit
- 1200 wet and dry sandpaper
- 1500 wet and dry sandpaper
- 2000 Abralon Pad
- White Scuff Pad 2500 Grit
- 4000 Abralon Pad

**Latest Breakpoint**

Adding Bowling Ball Polish after scuffing will give more length, closely matching the next step on the chart (or a different reaction altogether). It will take testing, time, and trial and error.

**Example** = 1000 Abralon then Bowling Ball Polish would closely match the white Pad, or even 1200 grit. This depends on the amount of polish and polishing technique, either doing it by hand or using a spinner.

As a general rule, polish will give the bowling ball a more skid/snap reaction. Scuffing the bowling ball will smooth out the reaction. A bowling ball sanded with fine paper like 2000 or 4000 grit will actually shine a bowling ball if sanded at high speeds.
The Construction of a Bowling Ball

Bowling balls have evolved a ton over the years. Balls have a long history and bowling ball manufacturers are always experimenting with different materials and additives.

There are two main parts of today’s bowling balls.
1. The Coverstocks
2. The Core

Coverstocks

Plastic - Usually used in 3-piece cores. It does not have much traction on the lane and is lower in price. It is mainly used as a spare or a beginner ball.

Reactive Pearl - Used in all types or cores. It has a more of a skid snap reaction normally.

Reactive Solid - Used in all types of cores. It normally has an earlier and smoother reaction than the pearl.

Hybrid Reactive - Mainly used in 2-piece symmetrical and asymmetrical cores. This type of cover is made to give the bowler the best of both worlds. It has a combination solid reactive and pearl reactive. Mainly used on over and under bowling lane conditions.

Particles - This was a coverstock that was made to combat heavy oil. It had pieces or particles in the reactive cover to help it grab the lane surface. There are not many companies making particles any more, but there are a few. It was mainly used in 2-piece symmetrical and asymmetrical cores.

The Reactive Bowling Ball Coverstock - Today’s high performance bowling balls are usually made out of a reactive urethane material with additives in it to help it grab the lane. This additive can be made of anything from bits of rubber to bits of glass. They are sometimes called particles.
Today’s bowling balls use three main core variations:

The three-piece pancake design - This is used in lower-priced and introductory bowling balls and can use polyester or reactive resin type coverstocks. It is made of 3 pieces containing an inner core, a pancake type weight block at the top, and the coverstock.

The two-piece symmetrical design - This type of core was very popular in the mid 80’s and still is very common in a lot of bowling balls today. This type of core is even on all its sides and usually has a smoother reaction on the lanes. In other words, this core design will have a longer and more even transition when it is rolled down the bowling lane.

The asymmetrical design - This type of core is not even on all its sides and is a high-end design with a lot of science and new technology involved so it’s used mainly in high performance bowling balls. This core gives the ball driller the ability to fine tune the drilling of the ball to fit the bowler’s style.
Bowling Ball Surface - Polished or Dull

Having the right bowling ball for the conditions and knowing when and what type of ball to use can be a great benefit. Over the years I have seen nights when no matter what I did I just could not carry the pins, I am sure many of you have experienced this as well. I would try different balls to find out what ones worked in a given situation and what ones did not. What I have found is that there is a time to use a polished or shiny finished coverstock and a time and a situation to use a dull type coverstock.

Rules for picking the right type coverstock finish:
1. If your dull coverstock ball hits flat at the pins then it’s probably burning out. Change to a polished coverstock. A polished solid will retain its energy and may work better.

2. If your polished coverstock hits flat at pins then it is probably not getting any bowling ball to bowling lane surface contact. It never has a chance to grab so the ball will not react and in turn, the ball will hit flat. You should try a dull coverstock.

Here’s an example:

I was bowling a dull ball at the start of the night but it started to continually leave flat hits, like the flat 7 and 10 pin. I changed from the dull to a polished ball because I just wanted to get the reaction back that I had earlier in the evening. It worked, and it also delayed the reaction enough to stop the ball from losing its energy.

If I am using a polished ball and the lane conditioner carries down, my ball stops reacting, and I start getting those flat hits, then I will first try a dull pearl ball before changing to a dull solid reactive ball. This will get the ball to roll up a little sooner and eat through that carry down. You will have to do some testing to get the reaction that is needed.
Asymmetric Cores in Bowling Balls

I see a lot of bowling ball promo sheets with technical stuff on them and most bowlers have no idea of what most of it means. I will try to address some of the technical stuff, but I am not an engineer or science expert, so the only thing I am going to try to do is pass on what has been passed on to me and share some of my own personal experiences and studies.

Asymmetrical means that something is not even on all sides. An example would be a bowling ball with a chunk cut out of it. Some cores in bowling balls are asymmetrical. These balls have an extra weight distribution in them called a mass bias. An asymmetrical bowling ball is very tunable to the bowler's style because of this weight distribution.

Bowling ball companies do have different terms they use for this asymmetrical distribution, or mass bias. Examples are intermediate differential, mass bias strength, PSA or Positive Spin Axis, Bomb, and Key, to name a few. The point is that these balls are drilled to improve a bowler's weak areas.

They can also be drilled to rev up sooner or later in the hook zone of the bowling lane or can cause the ball to spin faster or slower. In theory, the higher the mass bias strength, the faster and more influence the cores spin will have.

You can find more information on this subject at www.morichbowling.com. As I know it, they are the founder of this technology. In addition, refer to www.ebonite.com for their bowling ball layouts. Here is an example of symmetrical versus asymmetrical.
RG and RG Differential in Bowling Ball Specifications

You choose a bowling ball to match your style and the lane conditions you bowl on, right? Sounds simple, but then you see all of the numbers on a bowling ball technical sheet and you wonder...what does all this mean and how does all of this information affect me, the bowler? I will try to address this simply.

Because of all the different styles of bowling and lane conditions, the ball companies make different types of balls. They are also trying to make balls that will sell. That is why you see all these numbers on a ball’s spec sheet, which include the USBC tolerance ratings.

RG means **Radius Of Gyration**. The RG of a bowling ball tells you how soon the core is designed to roll. The lower the RG, the sooner the ball is designed to roll. The lowest allowed by the USBC is 2.43 the highest is RG 2.80. (FYI – the USBC could change the rule at anytime).

The **RG Differential** (also called just DIFFERENTIAL) indicates the difference between the low RG and the high RG. The Differential indicates the potential for track flare which can be translated into hook potential. The higher the differential, the more hook potential the core possesses. The maximum differential allowed by the USBC is 0.060. (Don’t get this confused with intermediate differential because that is different. Intermediate differential is used in asymmetrical bowling balls to measure the spin time of the bowling ball before drilling.)

Note: All numbers on the spec sheets are before drilling and that is an important factor as after drilling, the numbers will change.

The biggest influence in bowling ball motion is the surface of the ball and the force and direction of the bowler’s release. In addition, the condition of the bowling lane must also be taken into consideration...now here are some pretty good rules:

A lower RG ball with a low differential will produce an earlier rolling ball with a small arcing motion.

A lower RG ball with a high differential will produce an earlier rolling ball with a larger/stronger arcing motion.

A higher RG ball with a low differential will produce a later rolling ball with an angular backend motion.

A higher RG ball with a high differential will produce a later rolling ball with a strong, somewhat angular backend motion.
On differential - the lower the differential, the closer together the track flare. The higher the differential the further apart the track flare.
**Why You Roll a Back-up Ball in Bowling**

What is a back-up ball in bowling and why you roll one?

A back-up ball is when a person rolls their bowling ball down the lane and it curves or hooks toward the 10 pin for a right-hander or toward the 7 pin for a left-hander. This is done as the ball transitions from the slide to the hook zone of a bowling lane.

The reason one rolls a backup bowling ball is because they are rotating their ball under and around a bowling ball instead of over and around. Back-up balls are more common among female bowlers because of their shape. Females’ arms have a V-Shape to them at the elbow. If they hold their arms out straight in front of them This V-Shape curve will turn away from them at their elbow. Males’ arms are typically straighter, but it just depends on genetics; I’ve seen men roll back-up balls, too. But, because of this V-Shape curve, it makes it easier for women to rotate the ball away from themselves by going under and around the ball rather than rotating the ball over and around. In other words, it feels more natural for them to roll their ball this way.

The preferred technique for rolling a back-up bowling ball for a right-handed person is to start on the opposite side of the lane. Stand left and roll the ball from the left side of the bowling lane (as if you are left-handed) toward the 1 and 2 pocket from the 2nd arrow on the left side:

The 2nd arrow is just a starting spot; you would then adjust yourself from that area for strikes and spares.
Some Common Causes of Thumb Soreness in Bowling

The fit of your bowling ball is very important. If it does not feel right you will be focused on that rather than rolling good shots. Here are some of the basic causes of thumb soreness:

1. The thumb hold of your ball is wrong.
   - The pitch, or angle of your thumb hole has been drilled wrong.
   - There is not enough bevel and the edge of the hole is too sharp and needs to be rounded down.
   - The thumb hole is the wrong size around or not deep enough which can make your thumb hang up at the release point.

2. The bowler is trying to do too much to the ball.
3. The span of your bowling ball is too long or short and you are struggling to hold on to the ball.
4. You are knuckling your thumb in the ball, also known as crimping. There is usually a knot or callus on the back of the person’s thumb if this is the problem. This can come from a fear of dropping the ball.
For All of Your Bowling Equipment and Accessory Needs Visit:

http://bowling-information.bowlingballgalaxy.com