



All About Wedges

by
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ABOUT THE AUTHOR

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INTRODUCTION

Wedges are the most complex and intricate clubs in your bag . . . and probably the least understood. This e-book was written to peel back the veil of mystery and confusion surrounding wedges – their design, manufacture, intricacies and use. The more you know about your wedges . . . your primary scoring tools . . . the better equipped you will be to select the ones right for your game, and to use them to lower your scores.



The invention of the “sand wedge” is generally credited to Gene Sarazen, a top-rated professional golfer who won numerous PGA Tour events and major championships back in the mid-1930s. Prior to its development, bunkers proved to be real hazards, as the only way to escape one was with a very precise clean pick of the ball with your niblick, which had a loft of about 45-48 degrees. No golfer in his right mind would intentionally play for a bunker, as we see many tour professionals do now.

Sarazen was looking for a better way to escape the sand, and inspired by the wing of an airplane, he welded material on the bottom of a niblick, giving it a wider sole and downward angle from the leading edge to the rear. His idea was that this would give the bottom of the club some “lift” and offer a “rejecting” assistance when it came into contact with the turf.

His idea proved itself quickly, and carrying a “sand wedge” became commonplace with tour pros by the 1950s, a trend that expanded into average golfer’s bags. But these early sand wedges typically featured a very wide sole and were usually limited to play from the bunkers, that is until golf club manufacturers began to produce a broader array of variations beginning in the 1960s. Since then we’ve seen the “sand wedge” evolve to become the most widely-used scoring tool for most golfers, and the spectrum of specialty wedges has expanded to include gap, sand, mid and lob wedges in lofts of 48 to 64 degrees and more.



Most golfers nowadays reach for one of their wedges when scoring is the main objective, and they are used in the widest array of situations of any clubs in the bag. From full swings to the most delicate little chip or pitch shots . . . from bunkers to fairway to rough . . . your wedges are your “go to” clubs for saving strokes and taking advantage of scoring opportunities.

So, the more you know about wedges, the better equipped you will be to choose the ones that are right for you, and use them to efficiency. There are many elements that go into making a great wedge. Find one or more that works for you and they will be your best friends, but a bad one isn’t worth its weight in dirt.

Almost twenty years in the wedge business has taught me that most golfers are confused by the information and mis-information coming down from the equipment companies, magazines, friends, pros and anyone else who can get your ear. This e-booklet has been written to share some of what I’ve learned about wedges and scoring so that you can have the expertise to get more from your wedges than ever before.

CHAPTER 1

A Primer On Bounce

A wedge's heart is in its sole.

What makes a wedge . . . well, “a wedge” . . . is the configuration of the sole – and a feature called “*bounce*”. Very simply, the term “bounce” defines the downward angle from the leading edge of the face to the rear edge of the sole. While simple in appearance, the engineering of the sole of a wedge is not a simple concept at all. This is the feature that determines how the club will perform as it engages the turf, and because wedges are called upon to save your skin from a wide variety of conditions, the variations are numerous.



The lie your ball finds might be very tight and firm, or it might be fluffy sand. It could be a clean fairway lie, or sitting down in thick rough. Your wedge is going to be used to extract the ball from many places, so the more you know about how the sole will perform . . . and why . . . the better choices you can make as you select the right wedges for your bag.

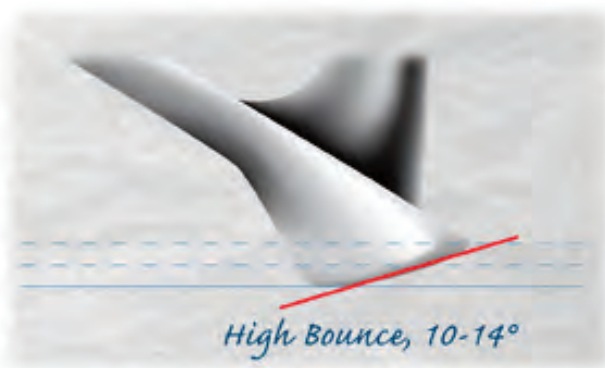
Defining Bounce

Bounce is measured in degrees, with the exact number defining the amount of backward slope from the leading edge to the trailing edge of the sole, in relation to the horizontal plane (the turf). Its purpose is to help neutralize the club's downward travel – it acts like an airplane wing, giving “lift” to the club to help it be “rejected” back upward out of the turf or sand.

Some wedges have a “relieved” area to the rear of the sole, which sweeps back upward, and therefore really cannot make contact with the turf. This isn't “bounce” because of this negative angle. The only functional part of a golf club's sole is that which actually makes contact with the turf. When you closely examine wedges with your new knowledge, pay attention to these types of features so that you can properly assess the wedge's probable playability.

What we call “**high bounce**” wedges are those that typically have an angle of 12-15 degrees on the bottom of the sole. This increased bounce provides a higher degree of “re-

jection” force when the club sole makes contact with the turf. As a result, high bounce wedges are generally preferred from sand, rough and softer turf conditions. On a shot from a tighter lie, a high bounce wedge will tend to skip into the belly of the ball, producing a shot that screams across the green.

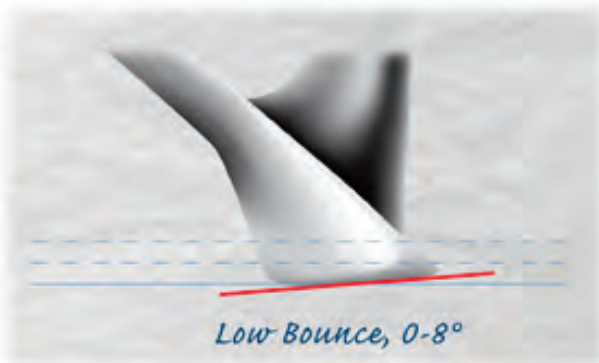


If your only wedge is a high bounce model, you probably will fare well from bunkers or other soft lies, but you will be heavily handicapped when your ball finds a tight lie or firm turf.

“**Low bounce**” wedges typically have 7-8 degrees of bounce or less, in order to reduce the amount of this “rejection” assistance. While this makes low-bounce wedges play better from close-cut fairways, firm turf and other tight lies, only an extremely skilled player can fair well with them from bunkers, rough and softer turf. Attempting shots from bunkers or soft turf with a low bounce wedge will often result in a big divot and poor results.

In between the extremes of low- and high-bounce wedges available to the golfer are a dizzying array of options, and it is quite confusing. But with a sound understanding of the difference, you can begin to make some sense out of the challenge of selecting the right wedges to help you score. One thing to remember when you are looking at wedges is that the actual angle of the bounce works in conjunction with the width of the sole. A wide sole wedge with low bounce, for example may play nearly the same as a narrow sole model with a higher bounce angle.

The best way to know if any wedge is going to meet your personal needs and desires is to take it out on the course for a few rounds. Use it from every conceivable kind of lie you can encounter to evaluate its performance and suitability to your game.



Beware of “Tour Bounce” Wedges

Because golfers are generally enamored with tour players and the equipment they play, they often look to the professional tours for “validation” of the clubs and balls they are considering buying. This is fun, but not necessarily the right way to select your golf clubs, particularly when it comes to your wedges.



Almost all manufacturers produce wedges with what they call “tour bounce” or “personal grind”. These wedges are marketed to the masses of golfers as copies of the kind of sole grind that the best players in the world have refined with their sponsor company.

What is crucial to understand is that every tour player has spent thousands of hours practicing with their wedges, honing their skills to extraordinary levels. The very best scrambler at your club would lose his shirt to the worst short game player on the PGA Tour in an up-and-down contest. As the ad slogan says, “These guys are good™”.

Besides the countless hours working on their short games, tour pros have the added advantage of playing courses each week that are manicured to consistent standards. Most people don’t realize the PGA Tour mandates a very tight “quality control” on its host courses for height of the fairway and rough cuts, green firmness and speed . . . and even the consistency and texture of the bunker sand. It is generally firm and moist, so that these guys get very few plugged or fried egg lies, and they can spin the ball terrifically from them – which pleases the on-site and TV crowds.

And if the conditions change overnight, there are a number of equipment vans and trailers at every tournament that allow the tour player to get different wedges in his or her bag to match the daily conditions . . . for FREE. The rest of us don't have that luxury.

In contrast with tour players, you play a variety of conditions from course to course, and from round to round on the same course. So, besides not having the skill of a tour player, you have to contend with much more variety of conditions as you play throughout the year. And the wedges you have chosen to play . . . and paid for . . . better get the job done in almost any circumstance your ball finds.

So, back to this notion of “tour bounce” wedges. They are built for each individual player to his or her particular tastes, and are designed to make sure their wedges do not “get in the way” of their remarkable skills. These **are not** the best choice for even the better amateur player.

Selecting the right bounce.

So, what's a golfer to do? The two major wedge manufacturers (and most other brands) offer these general guidelines to help golfers through the myriad of loft and bounce options:

- Choose high bounce wedges if you play softer turf and a low bounce wedge if your course is firmer. *(This apparently assumes that you only play one course and it never rains; they obviously don't realize that on every course the turf is usually firmer in some places than others!)*
- Choose higher bounce wedges if you have a “steep” angle of attack and a lower bounce if you have a shallow angle of attack. *(Again, these companies apparently don't realize that you vary your “attack” angle to the ball depending on the shot you're trying to execute)*



Pardon my “shots” at the industry’s advice, but hopefully this has given you an idea of the challenges you face as you try to sort your way to a selection of two, three or four wedges for your own bag that will equip you for the shots you will be facing day in and day out on the courses you play. The key is to try different wedges in actual course conditions . . . not just on the practice tee, or worse yet, a mat and net in the store. Find a selection that gives you the shot options you need to score from a variety of lies.

What your goal has to be when it comes to selecting your wedges is to ensure you will have the selection of scoring tools that allows you to get the most out of your short game, as that is where strokes will be saved. And almost any golfer’s game will benefit from an additional wedge or two, and one or two less long clubs.

CHAPTER 2

Understanding Spin.

Some Wedges Spin Better Than Others. Here's why.

You should realize that not all wedges can spin the ball with equal efficiency, because they are not all made the same way.

Historically, most wedges (even from the top brands) have had grooves that are either cast or stamped into the head. In cast wedges, which most are, cast-in-place grooves suffer from degeneration at each of the five stages of the process – it's like making a photocopy of a photocopy of a photocopy of a photocopy . . . well, you get it. In either case, when the face is polished, metal is removed so the grooves are made shallower, ending up with as little as 60-70% of what the Rules of Golf say *you could have had*. You wouldn't play a driver that you know to be 20-30 yards shorter, so why play wedges that are deficient in this way?



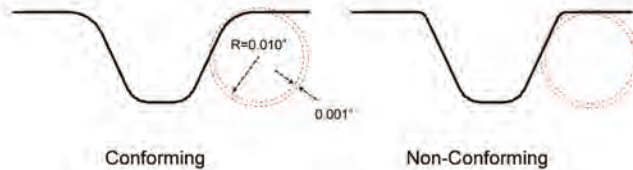
For some time now, the major companies have provided their tour players with wedges that have the grooves machined into the head to insure the best spin possible. But few companies ever made this advantage available to average golfers until recently.

In the past decade, these CNC (Computer Numerically Controlled)-machined grooves have made their way into production wedges available to golfers who purchase premium-grade models. By machining grooves this way, not only is the precision improved, but the grooves can be given a very clean and sharp edge, which dramatically improves spin generation.

Some manufacturers took the approach of giving clever names to their grooves, but the fact is that the USGA has very specific limits about the geometry that can be used. That said, if you're serious about spin, you won't settle for anything less than a wedge with machined grooves.

New USGA Rules for Grooves

Starting January 1, 2010, new USGA Rules regarding grooves on golf clubs begin to go into effect. This is a very complicated subject and one that merits a full understanding by all golfers. But the basics are that the rule change requires all manufacturers to begin making their wedges (and all irons with 25 degrees of loft or more) with a radius implied to the edges of the grooves. The effect of this will be a reduction in the amount of "bite" the groove can take on the ball, and therefore a reduction in the amount of spin that will be generated. The new rule will be enforced on the PGA Tour and the three USGA major championships in 2010, and for all other USGA Championships in 2014. It is anticipated that minor tours and other high-level competitions will enforce the rule in the time period in between.



The USGA has been quite candid in advising that all competitions for other than “expert players” should not apply the rule until “at least 2024”. Trust this; grooves will be in the golf news in the coming year. If you want to have a complete understanding, a FREE e-book “**The Spin Zone – The Real Truth About Grooves**” is available for download at www.EidolonGolf.com/downloads or at www.GrooveSurvey.com. This writing is the most comprehensive explanation of the rule, how it came about and its affect on you that is available anywhere.

But there’s more to spin than the wedge.

As the President of EIDOLON and blogger on the short game (www.TheWedgeGuy.com), I get hundreds of questions like, “How do I get more spin with my wedge shots?” It’s obvious that too many golfers really don’t understand the dynamics of what makes a golf ball spin, so let’s break it down into pieces.

The amount of spin imparted to the golf ball is affected by the grooves on the wedge, of course, and now you understand that better than your buddies. But some golfers spin the ball better than other, even with the same wedge grooves. There are five other factors that also contribute to spin, in no particular order:

The Ball. One very simple way to improve the spin you get with your wedge shots is to play a more premium ball with a softer urethane cover that allows the club to grip the ball better. The harder, and usually less expensive, balls typically have a Surlyn cover which is more durable, but doesn’t allow as much spin. You should experiment with vari-



ous balls to see which gives you the *optimum* combination of distance and spin. And understand that a little more spin around the greens will probably shave more strokes than a few extra yards off the tee.

The Loft of the Wedge. Very simply, your 56* wedge will impart more spin than your pitching or gap wedge, because it has more loft. And your 60* will give you even more. That assumes, of course, that they all have modern milled grooves. Generally speaking, when you want more spin for a shot, choose a higher lofted wedge. And for even more spin, open the face a little when the lie allows.



Clubhead speed. It's pretty simple physics, actually. If all the other parameters are the same, the faster the clubhead is moving through impact, the more spin will be generated. That's one reason why most of us amateurs should not lay up on par fives and long par fours to that awkward 30-70 yard range. Not only is it an in-between swing we probably don't practice, but you don't have the clubhead speed at that range to generate optimum spin. The increased clubhead speed with higher lofted wedges helps them generate more spin from the same distance.

Angle of approach. You have read thousands of times that you have to “hit down” on the ball to get spin. Well, that's true, but can also be misleading. The ball is sitting on the ground – how would you hit “up” on it anyway? I contend that's practically impossible. When you are hitting practice shots, you want to think of making contact with the ball . . . and then the turf – it's that simple. The thought of hitting “down” on the ball causes many amateurs to make an overly steep swing path, which is undesirable. Just re-

alize that you do not need to “help” your wedge get the ball in the air. We club designers have given it plenty of loft to make sure the ball will get in the air. All you need to do is swing the club and make sure the clubhead is traveling slightly downward at impact.

Quality of Impact. This is possibly the most important and misunderstood aspect of good wedge play, but a major determinant of spin and the sharpness of your wedge play is the precise quality of the connection of the club and ball at impact. Let’s get down to ground level and examine this.

“Thin to win.” Haven’t you heard that before? And haven’t you occasionally hit a shot from the fairway, thinking it was just a little “thin” only to watch it hit the green, take one hop and spin to a stop? Hmmm. How . . . and why did that happen?

Well, the truth is, under close examination, a perfectly struck iron shot, particularly with the shorter irons and wedges, is hit “thin” in a way. You’ve heard the term “trap the ball against the turf”, but what does that mean? Well, what it *doesn’t mean* is to try to smother the ball with the clubface by having the hands dramatically ahead of the clubhead at impact, and taking a huge divot. What “trapping” the ball refers to is the physical “pinching” of the ball against the turf with the leading edge of the clubhead so that it then shoots out with increased spin and often with a lower trajectory.

On a perfectly struck shot, the leading edge of the clubhead is traveling slightly downward at impact and makes contact with the ball right around its equator. The



clubhead *pinches the ball into the turf* before the clubhead then makes contact with the turf. The effect is similar to pinching a watermelon seed between your fingers until it squirts out with high velocity.

In fact, the clubhead making contact with the turf isn't really a necessity, if the ball is struck properly. Sometimes you'll see only a "ball divot" where the ball made a mark on the turf, but the clubhead never actually made contact. That is often what happens on those "thin to win" shots.

It is a fun exercise to go out and hit range balls with the intention hitting them thin. Watch what happens and I think you will be enlightened.

CHAPTER 3

Wedge Shafts

It's the 'engine' of the golf club, even on a wedge.

In many ways, insuring you have the right shaft in your wedges is tougher than for your driver, hybrids or irons. While you swing those clubs at mostly full speed every time, think of the challenge that your wedges present. At full swing speed, the wedge shaft has to effectively handle the dynamics of the heaviest clubhead in the set. But at the other extreme, it also has to perform at swing speeds nearing that of your putting stroke. The only way to give you the *motion feedback* necessary to help you have an accurate touch around the greens is for that shaft to have a little flex to it.

In spite of this highly specialized demand on your wedge shafts, wedges have been sold as commodities for years. They are typically purchased “off the rack” like golf balls – choose the head, everyone gets the same shaft material and flex. A survey of any retail wedge display will reveal that nearly every major brand of wedges is offered with the same shaft – a one-size-fits-all heavy steel model that has been around for over 25 years. It's typically available in “wedge flex” only.



In a golf marketplace where over half the irons sold are either built with lightweight steel or graphite shafts, that “wedge flex” steel shaft gives the golfer a weight “disconnect” of as much as two ounces from his or her pitching wedge to their first specialty wedge. This **has** to have a detrimental effect on feel and touch.

In an independent test of various wedges from five major brands on the market, it was revealed that these shafts can average as high as 6.0 to 6.5 on the frequency scale, which is 2-3 full flexes stiffer than what 99% of golfers are playing in their irons.

So, what should you look for in a wedge shaft?

First, you should try to match the weight and material to that of the shafts in your irons as closely as possible to ensure a “seamless” transition in feel and balance. If you’re playing graphite or lightweight steel, choose a similar weight shaft for your wedges. [NOTE: The author is a huge fan of graphite (provided it is high-quality), because lightweight steel just cannot provide the soft but solid feel a good short game requires.]

Secondly, it is usually a good idea to play wedges with a slightly softer flex shaft than in your irons. It was nearly 25 years ago that Jack Nicklaus shocked the world (those of us that were listening at least) by announcing that he had switched to “R” flex shafts in his wedges and experienced greatly improved feel around the greens.

And finally, if you really want to improve your scoring touch, you should give consideration to the premium shafts on the market that were designed specifically to optimize the performance of wedges. You will benefit from enhanced feel and in many cases, actually generate increased spin from such shafts. You can immediately improve the feel and performance of any wedge on the market by changing out the shaft to something that is more suited to precision shot making. Your local phone book can direct you to a qualified club builder/repairman who can do this for you.

CHAPTER 4

Selecting Your Wedges.

Choose your weapons carefully for an improved short game.

Wedges can be confusing. The product lines from the major brands offer every loft from 48 degrees all the way up to 64 and higher . . . and dozens of bounce options. But every golfer has one “right” mix of scoring tools, based on your skills, the specific irons you carry and the courses you play most often. So, with all the options available in the stores, how do you choose what wedges to carry in your bag to best optimize your short game? We’d like to help you sort this out.

Know your lofts.

The first step is to really know the lofts of your short irons and the wedges that are in your bag. Many manufacturers are “jacking up” the lofts to fool you into thinking their irons hit the ball longer than the competition’s. But what good does it do your game if you lose your scoring clubs because what used to be an 8-iron now has a “9” or even “P” on it? The traditional pitching wedge has 48-49 degrees of loft. If your irons are a cavity back design, yours probably has less . . . maybe much less. You need to know this. Most golf shops have a loft and lie machine and can “analyze” your clubs for you, and newer sets of irons will have their specs published on the manufacturer’s website. Knowledge is power.



Analyze your gaps.

One of the most valuable exercises you can do is to accurately and honestly learn exactly how far you can comfortably hit each of your short irons and wedges on the fly. Only if you know **your** exact yardages can you determine where your gaps might be too large to facilitate efficient scoring. For your best golf, you'll want not more than 12-15 yards between full swing distances at the scoring end of your set. It makes sense that longer hitters will need to carry more wedges to optimize scoring than those who are not as strong.

To help with this entire process, EIDOLON Golf has published a book called "The SCoR Method" which gives a step-by-step guide to help you analyze your distance gaps and develop the "in between" shots with a great degree of precision. It's a complimentary gift with any EIDOLON wedge order, and is available for purchase at www.Eidolon-Golf.com/accessories.



Selecting the right wedges for your game.

Most golfers will experience a very large distance gap between their set-matched pitching wedge and their sand wedge. That should be filled with the addition of a 50-52 degree "gap wedge". It will be one of the most valuable clubs in your bag.

If your irons have "jacked up" lofts, and therefore a pitching wedge of 43-45 de-



greens, you might find you need a “true” pitching wedge of about 48 degrees in addition to the gap wedge. This will give you more precision when you’re in prime scoring range.

For the majority of golfers, your primary scoring wedge will probably be a “sand wedge” of 56-58 degrees. This loft and the right bounce can help you hit a variety of shots, making this your “go to” club for most recoveries around the greens. The keys to this club are its built-in versatility and your confidence.

“Lob wedges” of 59-61 degrees can be very valuable scoring tools, especially if your course has deep greenside bunkers and firm and/or elevated greens. But mastering the lob wedge takes time, so be sure to spend plenty of practice time with it if you add one to your bag.

And we are seeing more and more wedges offered in lofts of 62-64 degrees and higher. These typically are very hard to hit with full swings, but can be very exciting scoring tools around the greens . . . but only if you are willing and able to practice with them a great deal. Approach these “super lob” wedges with caution and appreciation for their difficulty to master.

While wedges are typically available in even numbered lofts from 48-64 degrees, often the right solution is to build your set of scoring tools with an eye to precision. You might find that **your** personal “prescription” is for wedges of 49, 53 and 57 degrees. Most wedges can be tweaked to hit these exact loft numbers but you must be careful to choose bounce angles that will not be compromised when you do this. As a guide, generally do not bend a low bounce wedge to a stronger loft as it reduces the bounce even more. And a high-bounce wedge that is weakened to a higher loft will increase the bounce. Be careful.

CHAPTER 5

The Importance Of Custom Fitting

Matched to your irons and fitted to you can make a world of difference.

The concept of custom fit wedges is not one that is very broadly promoted in the golf equipment industry. But doesn't it make sense that since these are the clubs that are called on for saving pars and making birdies, they . . . of all your clubs . . . should be selected and fitted to you and your game? Properly fitted wedges can make a huge difference in your scoring abilities. With the correct shaft (in weight and flex), built to the right length for you, and adjusted to a lie angle that fits your swing and short game technique, can make all the difference in the world.

A properly fitted set of wedges will give you scoring tools that work best for you and your game. The shaft length and lie angle will allow you to hit shots from the proper posture and set up, and get the most from your wedges when you need to get it close.

Generally speaking, it is usually a good idea to have your wedges built to be a “seamless” extension of your irons. By that, we mean that the shaft material and flex should be compatible to those in your short irons so that your feel is uncompromised. The only exception to that is if you play very firm iron shafts, you may well want to have your wedges made to a slightly softer flex pattern.



With length, at EIDOLON we recommend that wedges not get too long so that they don't become unwieldy. If you play over-length irons, for example, we recommend that your wedges only be half that adjustment, i.e. match wedges $\frac{1}{4}$ " over to irons that are $\frac{1}{2}$ " longer than standard.

And speaking of "standards", there are none in the golf equipment industry. So, the best way to begin determining your wedge needs is to have a skilled clubfitter take the actual length and lie measurements from your short irons and set-match pitching wedge.

Once you know that, most golfers will like the feel and balance of wedges that are incrementally $\frac{1}{4}$ " shorter than their set-match pitching wedge, and have loft differences of about 4* between clubs.

With regard to lie angle, take a tip from the tour professionals, who almost all have their higher lofted wedges 1-2* flatter than their lower-lofted wedges and/or short irons. This facilitates the lower hands position at address and impact that is a key to good wedge play. When you think about the fact that good wedge shots are hit from a posture where you are slightly more flexed at the knees and bent over a little more from the waist, this makes good sense.

Custom fitting is a science and art, and for resources on custom-fit wedges, you can do an online search on Google or any other major search engine, and locate qualified custom clubfitters/builders in your area. A visit to one or more is an eye-opening experience and can start you down the path to lower scores.

CONCLUSION

Your wedges are your “money clubs”. They are the key to lower scores, no matter what your handicap. For low single-digit players, good wedge play is the ticket to more birdies and saved pars. For mid- to high-handicap players, you’ll use your wedges more than any other clubs in your bag, except your putter. So the more time you spend choosing the right ones, and learning how to use them, the lower your scores will go.

If you want to really learn how much impact better wedge play can have on your scores, re-think a recent round and count up how many strokes you would have saved if you would have taken an average of 2.5 strokes to hole out once you were inside 100 yards. You probably will be surprised. And good wedge play will set up that kind of scoring improvement.

It all begins with a careful analysis of what is in your bag. Do these wedges have bounce angles that are versatile for different lies? Do you have the right loft and bounce angles for the conditions you most frequently play? Do the shafts optimize feel and balance and ensure a “seamless transition” from your irons? Do you know exactly how far you hit each wedge with full and partial swings? Do they fit you?

The more you know about your wedges, and the better you get to know them in practice, the better your scores will get.