INTRODUCTION TO MIZUNO CUSTOM FIT TRAINING

The Mizuno Custom Fitting System is designed to maximize the quality, performance and enjoyment of Mizuno Golf equipment. Equipment manufacturers do not design or manufacture golf clubs with the same standards, measuring techniques or goals. Simply put, there are no standards. This fitting system is designed to maximize Mizuno’s expertise in quality, performance and innovation to lower your customer’s scores. The system will deliver the absolute finest game maximization equipment available with no complicated charts, gauges or theories. It offers good solid equipment with time honored fitting techniques as used by the best fitters in the world.
The Mizuno Custom Fitting System is comprised of 9 very simple steps. We at Mizuno realize golf is a dynamic game played in wide ranging circumstances by people of vastly diverse strengths and weaknesses in their swings. To bring a manageable system to identifying the ideal equipment, our system includes the following steps:

1. The Interview
2. Club length determination
3. Shaft profile
4. Lie angle identification
5. Grip size
6. Set make-up
7. Wedge selection
8. Loft selection
9. Helpful teaching tips
THE PERSONAL INTERVIEW

The purpose of the personal interview is to establish some basic information that will aid and streamline the fitting process. The interview also allows you to become more familiar with the background and abilities of your student or customer and to allow the student or customer to relax. Please remember that these questions and answers are merely a beginning and reference point.

The final and perhaps the most important question is: What is the reason for this fitting session? Is it to compensate for current game faults, or is this part of a long-term commitment to enhance overall game improvement? The answer to this question affects the entire fitting process.

Vital Statistics:
1. Height
2. Weight
3. Age
4. Male or Female
5. Right Hand or Left Hand
6. Current Handicap
   (If applicable)
7. Physical Limitations
   a. Neck
   b. Hands
   c. Back
   d. Shoulders
   e. Arms
   f. Wrist
   g. Knees
   h. Feet (includes ankles)
8. Shot Characteristics
   a. Pull
   b. Push
   c. Hook
   d. Slice
   e. Top Shot
   f. Fat
   g. Thin
9. Problem Clubs
   a. Driver
   b. Fairway Woods
   c. Long Irons
   d. Mid Irons
   e. Short Irons
   f. Wedges
GOLFD CLUB LENGTH: INTRODUCTION

Golf club length is probably the most abused and misunderstood aspect of club fitting. Club length cannot be determined with a static measurement alone or independently of the lie angle. The primary determination of the proper club length is not necessarily based on the golfer’s height, but is most importantly connected to the player’s ability. Height or the length of one’s arms does not determine the proper length of the golf club, but rather provides a starting point in the fitting process for club length. The ability of the golfer to strike the ball consistently on the sweet spot is the most important factor when determining the desired club length. Length determination is in direct relation to the lie angle and, therefore, club length and lie angle must be viewed in conjunction. While this fitting system devotes a chapter to length and lie independently, both are interrelated. Tall individuals do not necessarily need longer clubs while shorter individuals do not necessarily need longer clubs. It’s the individual’s ability to strike the ball more consistently that is the determinant.
**GOLF CLUB LENGTH: STEP ONE**

- Using the player’s height and knuckles-to-floor measurement, check the chart below and note if the player is within the average range. If the individual is outside the highlighted range, consistent ball striking is needed to determine proper length.
- While the player is wearing street shoes or soft spike golf shoes, ask him/her to stand upright with arms relaxed at sides.
- Have the player place his/her left hand (right hand for a left-handed golfer) in a clinched position.
- Measuring from the knuckles to the floor, establish a length in inches from the floor.
- Using the golfer’s height and the knuckles-to-floor measurements, refer to the static length chart for approximate club length needs.
- Choose the appropriate 6-iron to begin length determination.
GOLF CLUB LENGTH: STEP TWO

- Review the player’s ability to strike the ball consistently in the center of the club face.

- Based on the player’s height at address position, determine if the length of the club is affecting the player’s ability to strike the golf ball consistently.

- A minimum of five shots should be used to observe ball striking.
GOLF CLUB LENGTH: STEP THREE

- If the player is inconsistent in his/her ball striking ability, check the posture at address first. Improper posture at address leads to improper posture at impact. A lesson may be necessary at this point.

- Next, check the lie angle of the fit test club. After reviewing the results of the subject’s posture, both at address and at impact, and adjusting the lie angle of the fit test club, determine if the length of the club is the primary condition affecting the ball flight and direction.

- This observation is subjective and relies on the skills of the individual fitting the customer.
GOLF CLUB LENGTH: STEP FOUR

- Based on the skill level, a longer or shorter shaft may be recommended.

- The longer the club, the more distance may be obtained. However, there is a definite trade-off between distance and accuracy.

- A basic rule of thumb here would be to fit the individual to the longest club he/she can consistently hit on the sweet spot. This is a trial and error process, but we have provided you with the tools to determine the individual’s ability to hit the ball solid.

Additional Notes

- Each ½” in length extension relates to 1 degree upright and approximately 3 swing points.
- Club manufacturers do not have identical specifications for length. Mizuno’s specifications are published in the catalog and may or may not compare to other brands.
- Mizuno standard length golf clubs will fit approximately 80% of all players.
- Clustering of shots on the face, if they are not on the sweet spot, does not indicate a particular adjustment in length.
- Clustering of a shot pattern indicates the need for further examination of the length of the club in conjunction with the lie angle.
- There is no simple answer for club length. You want to fit the individual with the longest club with which they can consistently and solidly strike the ball.
COMPENSATIONS RELATED TO CLUB LENGTH

If clubs are too long:
1. Player may choke down on the golf club.
2. Posture “too tall” with little or no knee flex.
3. Weight at address more toward the heels.
4. Falling away from the ball through impact.
5. “Pop ups” with the driver.
6. Unusual amount of “fat” shots with the irons.
7. “High” hands at the address position.
8. Struggle with timing, tempo and balance.
9. Inability to strike ball consistently square on the clubface.

What if the clubs are too long?
COMPENSATIONS RELATED TO CLUB LENGTH

If clubs are too short:
1. A tendency to grip the club past the butt of the club (look for wear patterns on the glove).
2. Bad posture (bending too much at the waist with excess knee flex).
3. Falling toward the ball through impact.
4. Weight at address more toward the toes.
5. Thin, low shots with woods and irons.
6. A tendency to address the ball with the heel of the club.
7. “Low” hands at the address position.
8. Inability to strike the ball consistently on the clubface.
GOLF CLUB LENGTH: SUMMARY

Remember these important relationships when addressing length:

1. Allow the player to be balanced at address.
2. Always think about achieving squareness of hit and solid contact.
3. Both longer and shorter clubs can achieve greater squareness.
4. Length affects other club variables, including the flexing downward of the shaft during the swing, lie angle, total weight and swing weight of the golf club.
5. The poorer payer can generally adapt to more dramatic changes in the length than the better payer.
6. Use the system to enhance your teaching skills.
THE SHAFT PROFILE — SHAFT OPTIMIZER

Choosing the right shaft for your customer is one of the most important aspects of Club Fitting. Since the shaft will affect distance, ball flight, spin and trajectory, this portion of the fitting should not be overlooked. Fitting the shaft is not as simple as reading clubhead speed. For a complete and accurate fitting, the fitter should consider all of the following factors:

**Club Head Speed:** How fast the club head and shaft are moving during the swing.

**Tempo:** How quickly a player transitions from the backswing to downswing.

**Shaft Toe Down:** A measure of the bowing of the shaft in a downward direction during the down swing.

**Shaft Kick Angle:** The amount of shaft forward bending during the down swing motion.

**Release Factor:** How and when the club head and shaft are releasing during the downswing.

Continued next page.
THE SHAFT PROFILE — SHAFT OPTIMIZER

Continued from previous page.

Two players with identical club head speeds and tempo can require two totally different bending profiles based on their shaft toe down, shaft kick angle and release factor. The Mizuno Shaft Optimizer allows the fitter to measure club head speed, tempo, shaft toe down, shaft kick angle and release factor during his/her swing while hitting a golf ball. By measuring club head speed and tempo you can determine the ideal flex and weight of the shaft. These two measurements along with shaft toe down, shaft kick angle and release factor indicate how the shaft is bending during the swing. Taking all these numbers into account will allow the Shaft Optimizer software to recommend the ideal shaft bending profile which will deliver maximum consistent energy transfer to the ball. Fitting the right shaft requires experience and some trial and error. However, by using the Shaft Optimizer it should give you an excellent starting point in the shaft fitting process.
FITTING FOR THE SHAFT: STEP ONE

1. Select the Shaft Optimizer and push the POWER button (“On” will appear in the window).

2. Then press and hold the RESET button until the word “Go” is displayed on the digital read-out screen. See Figure D

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Power Button</td>
<td>Press once to turn power on. (Auto Shut off)</td>
</tr>
<tr>
<td>2.</td>
<td>Reset/ Display toggle button</td>
<td>Press and hold to reset unit. Tap to toggle HEADSPEED / TEMPO, TD, KA, RF</td>
</tr>
<tr>
<td>3.</td>
<td>LCD Display</td>
<td>Displays ready status of unit and swing data.</td>
</tr>
<tr>
<td>4.</td>
<td>Battery Cover</td>
<td>Remove (3) three hex screws and unsnap cover to remove batteries. Snap shut to close and replace hex screws.</td>
</tr>
</tbody>
</table>
FITTING FOR THE SHAFT: STEP TWO

Have the customer hit a golf ball off a tee to gather the swing characteristics of his/her specific swing.
FITTING FOR THE SHAFT: STEP THREE

As you take the shaft optimizer back from the customer, the digital read-out will automatically be displaying the CLUBHEAD SPEED reading. Fig. E Record the CLUBHEAD SPEED number into the Shaft Optimizer software tool and then tap the RESET button one time to display the readings for TEMPO, TOE DOWN, KICK ANGLE and RELEASE FACTOR (all four readings will appear on the screen simultaneously). Fig. F Record these four readings into the software tool just as you did for the CLUBHEAD SPEED reading. Repeat Step 2 (have customer hit another ball) until you have multiple sets of recordings entered into the Shaft Optimizer software tool and then press “Submit” on the computer screen. The Shaft Optimizer software will calculate and then display the shafts (with steel and graphite options) that are best suited to the customers’ individual characteristics.
Fitting for the Shaft: Step Four

Choose one of the selected shafts along with appropriate iron model from the Fitting Cart and have the customer hit several balls while visually observing ball flight or measuring with a launch monitor. If necessary, have the customer demo the other shafts selected by the Shaft Optimizer until the PERFET FIT has been identified.
FITTING FOR THE SHAFT

Compensations Related to Shaft

What if the shaft is too firm?

1. Alignment to the left of target line.
2. Lack of weight transfer in backward or forward swings.
3. Stronger than normal grip positions.
4. Hitting at ball rather than swinging through the ball.
5. Ball sounds hard coming off the club face.
6. Ball is always fighting to come down.
7. Weight on back boot at address.
8. Loss of balance toward the toes through impact.
9. Erratic ball flight patterns.
Fitting for the Shaft

Compensations Related to Shaft
What if the shaft is too weak or soft for the player?

1. Alignment to the right of target line.
2. Excessive weight transfer.
3. Weaker than normal grip positions.
4. A reluctance to release the clubhead through impact.
5. Loss of power, control and distance.
6. Ball sounds soft coming off the clubface.
7. Ball is “floating” with little penetration.
8. Weight forward at address.
9. Loss of balance toward the heel through impact.
10. Erratic ball flight patterns.
SHAFT SUMMARY POINTS

1. Proper shaft selection reveals itself in consistent and penetrating ball flight.
   It is the primary factor in returning the clubhead square to the ball at impact.

2. A shaft that is too firm will send the ball lower and to the right or left.

3. A shaft that is too weak or soft will send the ball higher and to the left.

4. A shaft that is extremely too weak for the individual will send the ball higher and to the right.
Fitting Lie Angle — Lie Angle Variations:

Notes: Increasing or decreasing the length of the club by \( \frac{1}{2} \)" will alter the effective lie angle by 1 degree in the direction of the adjustment, i.e., a \( \frac{1}{2} \) increase in length will make the club appear 1 degree more upright. This is very important when fitting to adjusted length clubs.

- **Lie Too Upright**: Ball will be hit left of target
- **Correct Lie**: Straight shot
- **Lie Too Flat**: Ball will be hit right of target
FITTING LIE ANGLE — LIE ANGLE VARIATIONS:

**UPRIGHT LIE**
1. If the mark is more toward the heel of the club, then the club is too upright and the ball will go left of the target. (Note: a fat shot off the lie board will move the mark toward the heel giving a false reading.)

**STANDARD LIE**
2. If the mark is in the center of the club, then the lie angle is correct.

**FLAT LIE**
3. If the mark is more toward the toe of the club, then the club is too flat and the ball will go right of the target. (Note: a thin shot off the lie board will move the mark toward the tow giving a false reading.)
LIE ANGLE — MIZUNO LIE FITTING TOOLS:

These Fitting Irons have a patented sole design to more accurately recommend length and lie. This 6 iron has a lie angle range of 4 degrees flat to 4 degrees upright in right handed and left handed. When using these Lie Fitting irons you conduct your lie angle measurements the same as you would before. You place lie and face tape on the club and you strike 3 or 4 shots off the lie board and you determine the best lie angle for the customer.
FITTING FOR LIE ANGLE: STEP ONE

You decide whether the player needs standard length and that he is right handed. Select the right handed Lie fit club and apply lie and face tape to the club.
Fitting for Lie Angle: Step Two

Position the ball on the lie board and have the player hit 3 or 4 shots off the board.
FITTING FOR LIE ANGLE: STEP THREE

Review the markings on the sole of the club to determine what lie you need to order. The lines on the sole are at $\frac{1}{4}$" increments or 1 degree and they correspond to the number on the side of the club. The customer marks the soles 63 degrees. The club you would order is 63 degrees in the proper length and shaft that best fits the customer.

NOTE: If the player produces marks outside the range of the system, you will be required to visually estimate the correct lie angle.

The decision to fit for compensation or enhancement comes into the foreground at this point because adjusting lie angles two or more degrees in any direction will produce profound differences in the directional flight of the ball, and the player must adjust their swing accordingly.

If the player insists that swing changes are not part of his plan, the teacher must inform the player that the lie angle may not be able to be adjusted to exact specifications. This doesn't mean that performance will not be enhanced by the resulting adjustment. It does mean that the player will not receive the full benefit of what the total process has to offer.

To visually determine the approximate lie angle from the markings, determine the center for a group of markings. For each 1/4" this mark stands from the center point of the sole of the club, adjust the lie angle by 1°.
COMPENSATIONS RELATED TO LIE ANGLE

Look for these swing habits when clubs are too upright:

1. Ball flight patterns that start left of the intended target and bend left.
2. Weak grips.
3. Exaggerated weight shifts or a tendency to get “ahead” of the ball.
4. Inside to outside swing paths.
5. “Passive” hands through impact.
6. Wide stances.
7. “Open” clubfaces at address, particularly with short irons.
8. “Weak” hands or “cupped” positions at the top of the backswing.
9. Preference for fairway woods and long irons.
10. Extreme dislike for “tight” lies—prefers hitting out of the rough.
11. Preference for strong lofted driving clubs.
12. Pulls shots that are even with the pin—leaves ball short with shots at the pin.
13. “Closes” stance to achieve aim that is right of intended target.

If the lie angle is too upright for the player, the ball will play as if it were above the feet.
COMPENSATIONS RELATED TO LIE ANGLE

Look for these swing habits when clubs are too flat:

1. Ball flight patterns that start right of the target and bend right.
2. Strong grip positions.
3. Reverse weight shifts.
4. Outside to inside swing paths.
5. Firing of the small muscles (hands and wrists) through impact.
6. Delayed or no weight transfer off the back foot after impact.
7. Little or no head movement in the swing.
8. Narrow stances.
9. Closed clubfaces at address and at the top of the backswing.

If the lie angle is too flat for the player, the ball will play as if it were below the feet.
The grip is where the player receives his or her feedback information from the club. The grip size can influence the player’s ability to execute certain shots. It can also aid in protecting the player from further damage from previous point injuries. The most important aspect of selecting the grip size is the ability of the player to square the club at impact. This ability to square the club is directly proportional to the ability of the player to release the wrist through the impact area. Fitting a grip size requires an analysis of the person’s possible physical limitations. Small hands or large hands and grip size are not the only determining factors for grip size.
FITTING GRIP SIZE

Step One:
Place the standard size grip in the player's hands.

Step Two:
The fingertips should lightly touch the pad of the top grip hand (palm area) in the proper grip position. A gap either way indicates a grip that is too small or too large.

Step Three:
If the fingertips overlap the palm, a larger grip is required.

Step Four:
If the fingertips do not touch the palm of the top grip hand, a smaller grip is required.

Note:
Physical limitations such as arthritis, joint problems, carpal tunnel syndrome and long fingernails also affect the grip size selection process.

<table>
<thead>
<tr>
<th>GLOVE SIZE</th>
<th>GRIP SIZES</th>
</tr>
</thead>
<tbody>
<tr>
<td>S, M</td>
<td>-1/64 or STANDARD</td>
</tr>
<tr>
<td>ML, L</td>
<td>STANDARD or +1/64</td>
</tr>
<tr>
<td>XL</td>
<td>+1/32 or MIDSIZE</td>
</tr>
</tbody>
</table>
ENHANCEMENT VS. COMPENSATION

The equipment should never be part of the problem and always a part of the solution. The system should help accomplish swing changes the player wishes to achieve. This is the preferred method of “fitting for enhancement.” Fitting for enhancement means giving the player the appropriate result for the swing he or she makes. Habits are created through repetition. To achieve desired results, change the result and the action required to create it will change also. In the learning process, to change a player’s perception (his or her reality), the teacher must change the results of the player’s behavior. If the player does not wish to change his or her swing habits, then the teacher must adjust the player’s thinking and their process to accommodate the player’s swing. Though potentially less desirable, this option is necessary to explore. Some players are simply not going to commit to the time and energy required to make swing changes. As teachers, this is part of reality. Thus, sometimes we must fit for “compensation.” The bottom line? If the decision is to fit the swing the player has, the only goal is to design a golf club for the individual that will better reward their current abilities.
Mizuno Set Optimizer:
The purpose of this Set Optimizer is to remove the confusion associated with selecting the appropriate clubs for the proper set make-up. In order to determine set make up, two key swing characteristics are measured: Clubhead speed and Attack angle. These parameters determine the golfer’s ability to generate adequate lift for an ideal trajectory. The end result of this fitting will be a recommended set make-up that provides the proper distance gaps between 3 wood and 5 iron for increased forgiveness and playability over a traditional fairway wood/long iron set make-up.
HYBRID FIT INSTRUCTIONS:

FIRST: Select the Hybrid Fit club from the fitting system and set up your clubhead speed measuring device.

SECOND: Place sole impact tape on the bottom of the club and place the ball on the lie board.

THIRD: Hit several shots off the lie board using the Hybrid Fit club to determine an attack angle reading and clubhead speed. (Take an average of 3 shots)

FOURTH: Locate your attack angle reading and clubhead speed on the chart to determine optimum set configuration.

See the GAME IMPROVEMENT SET OPTIMIZER INSTRUCTIONS in the Resource Center
FACTORS INVOLVED WHEN FITTING WEDGES

The wedge is one of the most important clubs within the set make-up. These clubs contribute a great deal toward the player's total golf score. Not having the properly fitted wedge make-up can cause the player to make changes in his or her alignment, set-up and swing to accommodate for improper clubs.

Wedge fitting should be done at the end of the regular club fitting to ensure that the player has the proper set make-up in his or her scoring clubs.

When fitting wedges, the player's personal tastes are an important aspect of the decision process. The look, size and shape could be factors when choosing the right wedge for your customer.
FACTORS INVOLVED WHEN FITTING WEDGES

**Lie Angle:** Recommend the same lie angle based on the lie board readings you determined when selecting the irons. It is best to error toward flatter lie angles to avoid the left shot and the dreaded shank.

**Length:** Recommend the same length based on the length chart, the player’s posture and the squareness of hit that you determined during the fitting of irons. **Wedge lengths do not all have to be the same.** There can be a uniform progression of lengths beginning with the pitching wedge.

**Loft:** Loft controls the distance and trajectory. Because there is no industry standard for loft, it is important to know the pitching wedge loft and what yardage the player hits with his or her swing speed. This gives you a starting point so you can recommend the proper make-up to fill in the gaps the player might have with his or her wedges. Keep about 4 to 6 degrees of loft between each wedge for maximum distance control and trajectory. **The exception to this rule is the better player who can adjust to in-between yardages by varying tempo and the speed of the swing. Examples are PW48, FW52, SW56, LW60 degrees.**

**Bounce:** The angle between the leading edge and the groundline. A wedge with more bounce allows the student to recover from soft sand and grass with the resistance to digging. Less bounce tends to dig more and is better for firmer turf conditions. **Higher handicappers, in general, fare better with more bounce than less bounce.**

**Sole Width:** This is the width of the sole from the leading edge to the trailing edge. A wider sole is generally more forgiving because it increases the effective bounce of the club and is better suited for wet or soft turf conditions. Narrower soled wedges tend to deliver greater versatility for shot making due to the fact that they are easier to play from an open or closed position. **High handicappers, in general, fare better with wider soles than with narrower soles.**
# WEDGE MODEL USE AND APPLICATION TABLE

<table>
<thead>
<tr>
<th>Model</th>
<th>Loft</th>
<th>Bounce</th>
<th>Club Type</th>
<th>Player Description</th>
<th>Turf/Sand Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-06</td>
<td>50</td>
<td>6</td>
<td>gap wedge</td>
<td>players who need to fill distance gap between strong lofted PW and 56 degree SW</td>
<td>medium-bounce for all turf types</td>
</tr>
<tr>
<td>52-06</td>
<td>52</td>
<td>6</td>
<td>gap wedge</td>
<td>players who need to fill distance gap between traditional lofted PW and 56 degree SW</td>
<td>medium-bounce for all turf types</td>
</tr>
<tr>
<td>54-09</td>
<td>54</td>
<td>9</td>
<td>sand/gap wedge</td>
<td>players looking for a SW with a stronger loft to fill a distance gap between their PW and LW</td>
<td>medium-bounce for gap shots from fairway and all sand types</td>
</tr>
<tr>
<td>56-10</td>
<td>56</td>
<td>10</td>
<td>medium-bounce sand wedge</td>
<td>players looking for an all purpose SW</td>
<td>medium-bounce for all turf and sand types</td>
</tr>
<tr>
<td>56-13</td>
<td>56</td>
<td>13</td>
<td>high-bounce sand wedge</td>
<td>players with less aggressive swings from the sand and green-side areas</td>
<td>high-bounce for normal to soft sand and normal to plush turf</td>
</tr>
<tr>
<td>Model</td>
<td>Loft</td>
<td>Bounce</td>
<td>Club Type</td>
<td>Player Description</td>
<td>Turf/Sand Descriptions</td>
</tr>
<tr>
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<td>------------------------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
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<tr>
<td>58-10</td>
<td>58</td>
<td>10</td>
<td>sand/lob wedge</td>
<td>players with aggressive swing types who are looking for a SW that can also be used for lob shots</td>
<td>medium-bounce for all turf and sand types</td>
</tr>
<tr>
<td>60-05</td>
<td>60</td>
<td>5</td>
<td>low-bounce lob wedge</td>
<td>players looking for high trajectory, high spin lob shots</td>
<td>low-bounce for high lob shots from all turf types, designed to perform well from tight turf or hard pan lies</td>
</tr>
<tr>
<td>60-08</td>
<td>60</td>
<td>8</td>
<td>medium-bounce lob wedge</td>
<td>players looking for a lob wedge that can also be used for aggressive full swing sand shots</td>
<td>medium-bounce for all turf and sand types</td>
</tr>
<tr>
<td>64-07</td>
<td>64</td>
<td>7</td>
<td>medium-bounce lob wedge</td>
<td>players looking for a lob wedge that can also be used for aggressive full swing sand shots</td>
<td>medium-bounce for all turf and sand types</td>
</tr>
</tbody>
</table>
LOFT: WOODS AND IRONS

Ball trajectory is the primary influence of loft. The greater the loft, the higher the ball should fly. This is true in both woods and irons. The correct amount of loft will produce the optimum trajectory with the maximum carry and roll.

Loft may be the most misunderstood variable when fitting woods. Most people think that clubs with less loft always hit the ball farther than clubs with more loft. If every golfer had 110 mph swing speeds and no compensating motions, that might be a true statement.

Iron loft is the angle measured from the center of the hosel to the plane of the face of the club soled level and the face square to the target line.
LOFT: WOODS AND IRONS

Notes:
What would happen if we taught beginners with a 9.5° driver? Chances are they would not be able to transfer their weight on the down swing and would keep their weight on their back foot to try to create loft to get the ball airborne. The 9.5° driver becomes a 15° club, and they complain that the ball goes too high. The beginners buy an 8.5° driver with a stiffer shaft to hit the ball lower and now they have to create a glancing blow in order to get the ball airborne, thus hanging even farther back on their right side. This reduces the player’s ability to create club head speed. Reduced speed couple with a glancing flow creates shots that are short, high and inconsistent.

Wood loft is the angle created from the sole to the face, less 90° at a point half up the face.
CLUB LOFT SELECTION

Step One: Place impact decal on face of driving club.

Step Two: Let player hit at least five shots to determine location of marks.

Step Three: Interpret marks as follows:
1. High marks in center of clubface may indicate too little loft.
2. Low marks in center of club and bottom of face may also indicate too little loft.
3. Toe marks may indicate face angle problems with exaggerated outside to inside swing paths.
   Note: Check club length.
4. Heel marks may indicate face angle problems with exaggerated inside to outside swing paths.
   Note: Check club length.

Note: Many swing problems typically blamed on shafts that are too stiff or lengths that are too long are actually founded in improper lofts.

Step Four: Compensations related to loft.
When club has too little loft:
1. Poor weight shift through impact.
2. A tendency to tee the ball too high.
3. Leaning more toward back foot to show the club has more loft address.
4. Visual wear patterns caused by hitting the ball high on the clubface.
5. A tendency to work under the ball, particularly with long irons.
6. A tendency to hit behind the ball.
7. Wear patterns on the trailing edge of the iron sole.
8. A preference for fading the ball.

When the club has too much loft:
1. May not use tees.
2. Player leans toward the target and/or forward presses at address.
3. Shallow angle of attack.
4. Prefers to pick the ball off the ground.

Step Five: Summary on Club Loft
1. The primary influence of loft is trajectory.
2. Loft generally reveals itself best in the driver.
3. Proper loft will produce desired trajectory with maximum carry and roll.
4. Swing problems typically attributed to shafts and lengths are actually founded in improper lofts.
FITTING AND TEACHING

Here are some helpful hints that will guide you through concerns you may encounter:

**If this....**

**then this may help**

**Ball flight left**
- Use stiffer shaft
- Use a higher deflection point shaft
- Check if lie angle is too upright
- Check club length and grip size
- Increase swingweight

**Ball flight right**
- Use softer flex shaft
- Use a lower deflection point shaft
- Check if lie angle is too flat
- Check club length and grip size
- Decrease swingweight

**Ball flight too high**
- Decrease loft angle
- Use a stiffer flex shaft
- Use a higher deflection point shaft
- Check for proper club length
- Check head design

**Ball flight too low**
- Increase loft
- Use a softer flex shaft
- Use a lower deflection point shaft
- Check for proper club length
- Check head design

**Inconsistent ball flight**
- Use a stiffer shaft
- Use a higher deflection point shaft
- Check swingweight
- Check lie angle
- Check club length

**Feel or sound not solid at impact**
- Swingweight too light
- Total weight too light
- Use softer flex shaft
- Use lower deflection point shaft
- Check club length
- Check lie angle

**Loss of distance**
- Use softer shaft
- Lighten the overall shaft weight (graphite)
- Try longer club length
- Check if lie angle is too flat
- Increase loft angle
- Check swingweight