

Analysing and explaining
the two techniques within the golf sport



The two plane swing



The one plane swing

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1. The fundamental theories of a golf swing

For many years there has been a permanent discussion throughout the teaching profession on the subject of the golf swing. There are two theories, which I would like to present. The theories are: **hands and arms swing** versus **the body motivated swing**.

1.1 The hands and arms swing

The first theory professes, that the club is mainly swung with a dominating arms and hands movement. The body reacts and assists in stabilising the movement throughout the swing. The club is taken away in the back swing with the arms and hands; simultaneously the upper body rotates with a 90 degree shoulder turn as the player reaches the top of his back swing.

As the club returns down into the impact position through the swinging momentum the arms and the hands release, making contact with the ball, extending and rotating on into the follow through.

This is normally described as an arm driven, body assisted movement that may either be called: a **square to square method** or a **free arm swing** or a **two plane golf swing**.

1.2 The body motivated swing

The second theory professes the big muscle movement. Within this swing the upper left arm is connected to the chest. The body starts the swing through the rotational movement of the shoulders and the torso, the club is taken back directly on the inside. With the swinging momentum the arms and the hands are taken automatically into the back swing. At the top of the back swing the wrists are hinged 90 degrees.

The swing starts down with an immediate rotation of the torso and the shoulders. The arms and the hands are simultaneously pulled down into the impact position. The hands release directly after impact through the rotational movement of the body, the club will swing more on the inside as the player commences into his follow through.

This golf swing is regarded as a big muscle movement; the body is the driving force within this swing, the arms and hands only assist.

This style of swing tends normally to create a shallower and wider golf swing.

Professionals have various names for this movement, it can either be called a **rotational swing** or a **connected swing** or a **one plane golf swing**.

1.3 Further features within the swing

Due to this discussion on both theories two further opinions: on how the golf club should be swung arise.

The first opinion is: **swinging straight back and straight through**, maintaining the club as long as possible on the ball – target – line.

The other opinion is: **the swing is a circular motion** and the club head stays less than a second on the ball – target – line.

Professing due to the circular motion it is not possible to swing the club down the target line.

I believe that both theories with reference to the **full golf swing** are correct. It is my point of view according to these theories: you are creating either a **two plane swing** or a **one plane swing**.

With regard to the straight back and straight through method, I believe, that this does work, however only within the short game. For example putting: I personally profess the straight back and straight through movement for the amateur golfer, even though I am aware that research with professionals shows that good putters tend to take the club back slightly on the inside within the back swing.

It is my opinion, that most of the time the player is not aware, that the club moves on the inside within his back swing. He optically views it as a straight back and straight through movement.

Also by chip - and – run – shots I emphasise a straight back and straight through movement, up to the forty to fifty meter approach shot with a pitching wedge.

May I point out, when I talk about straight back and straight through swinging movement, I am not talking about the club head. I am referring to an imaginary line, parallel to the upper thighs that the hands travel on. Within the back swing going straight back on the target line and returning straight through to the target.

For example a pitching wedge shot with a half swing approximately fifty meters: in the back swing the club head will be taken straight back on the ball - target - line and as the wrists start to hinge, this will create an optical illusion, that the club face starts to close slightly and travels optically outside the line.

However as the club returns to the ball, it is obvious to see, that the club head is square to the ball - target - line. Directly after impact I encourage, that the back of the left hand remains on the target line until the reduced follow through of the half swing is complete. This is mainly for direction, but simultaneously creates the maximum amount of backspin on the ball.

When a player requires distance, then the second opinion is absolutely correct. It is not possible to create distance without a circular rotational movement creating club head speed and centrifugal force.

I would now like to explain in more detail the various body movements that develop into a golf swing.

2. The player's starting position

In every type of sport, that requires accuracy you have two starting positions:

A starting position on the target line

This is where the player stands on his target line and plays down this line, for example: billiards, darts, cricket, shooting and 10 pin bowling.

A starting position off the target line

This is where the player stands to the side of his target line, we would call this a side on sport, for example: tennis, squash, baseball, hockey and of course the golf sport.

All side on sports have a circular rotational movement around the body.

This assists the player in generating centrifugal force within his sport.

This circular rotational movement is essential for a golf swing.

3. What determines a golf swing?

A golf swing is nothing more than a movement of the shoulders, the arms and the hands adjoining to the golf club, taking the club away from the ball with a circular rotational movement up and around the body on the inside (this is the back swing).

Returning down with the club increasing in momentum, making contact with the ball (this is the impact position).

After impact the hands, arms and the shoulders create a rotational movement around the body and back up on the inside as you follow through. The right foot will roll inwards and end up on the toes. Simultaneously the right knee moves inwards towards the left knee, as the player completes the swing (this is the follow through).

Having now identified the swinging sequence within the golf swing, we can divide the swing into three basic elements: **A back swing, an impact position and a follow through.**

Through the swinging motion the player creates: A swing path and also a swing plane. The swing path determines the direction of the club and the swing plane is the level, in which the club travels on.

3.1 Impact position

All professionals will agree that the most important part of any golf technique is the impact position.

The golfer has four major points that must be considered to create the correct impact position.

- 1) The **club face** in impact can be square, open or closed to the target line.
- 2) The **angle** of the club as the club returns to the ball in the impact position can be neutral, too shallow or too steep.
- 3) The **swing path** is the direction, that the club travels on and has many directional possibilities, for example: it can be **square** to the target line or go to the right of the target line with an **in – to – out** swing, which means, the club travels too much from the inside in

the down swing, crossing the target line in impact and continuing on outside the target line. This normally creates a shallowing out effect in the impact position.

A swing path can also go to the left of the target line with an **out – to – in** movement. This is where the club travels outside the target line at the start of the down swing. Normally crossing the target line in impact and continues through the momentum of the swing to the inside of the players target line. This form of golf swing creates a steepening angle in the impact position.

4) The **width** of the impact position is best described with the imagination of a wheel being held upright in front of the golfers address position. At this point the bottom of the wheel has the least contact to the ground, that I would call a narrow impact position. The more the wheel is lowered to the side, the wider the impact position. Therefore the impact position can be to wide and to shallow with a flat swing or to steep and to narrow with an upright swing.

The club face, the angle, the swing path and the width are the four elements within the golf swing, that teaching professionals analyse to correct ball flights and improve golf swings.

3.2 A swing plane

Due to the golfers address position and the ball being on the ground, all swing planes have two fundamental elements:

You can have a steeper swing plane: the club will travel more upright and less around the body.

Or a flatter swing plane: the club would then travel more around the body and less upright.

A swing plane can only travel in one of three directions.

It either goes to the target, left of the target or right to the target.

The players address position normally determines his swinging plane for example: an upright address position, where the player stands closer to the ball would create a steeper swing plane. The address position, where the player's torso is bent over the ball and further away would create a flatter swing plane.

The plane differences

I) The upright swing plane :

- 1) Up and down dominated movement
- 2) Arms motivated, body assisted swing
- 3) Narrow in impact position (problem)

Due to the upright swing tending to be too steep and too narrow in the impact position, the player likes to add a lateral movement of the hips in the down swing. Thereby fading the ball from left to right, for example: Colin Montgomerie.

II) A flat swing plane :

- 1) A round dominated movement and a
- 2) Body motivated, arm assisted swing
- 3) Wide at the bottom of the swing (problem)

The flat swing plane tends to create too much width throughout the impact position and would tend to produce hooks.

3.2.1 The swing priorities

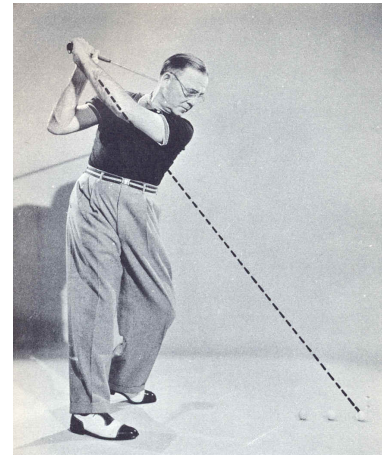
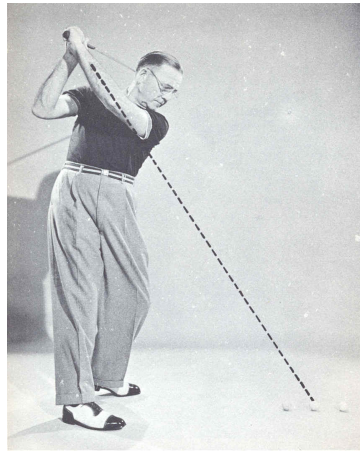
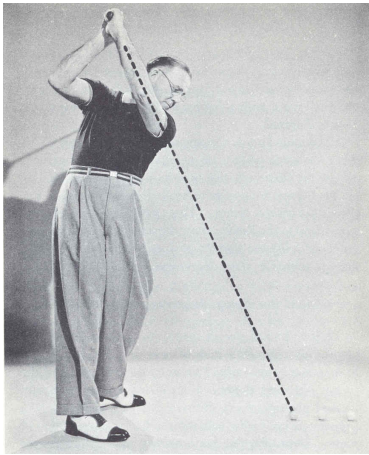
- 1) The back swing and a down swing should be on similar planes.
- 2) The back swing and the down swing should travel in a similar direction.
- 3) The club must be on the same plane line as the left arm.
- 4) The club face should always be square to the plane line.

Many golfers have, what professionals call athletic golf swings, this is where the club is swung in a very unorthodox way and normally out of plane with an inconsistent swing path. However they do manage from time to time to make good contact with the ball.

By not maintaining a consistent swing path and swing plane, they are unfortunately unable to repeat this swing, which leads to a lack of consistency throughout their game.

Therefore the main advantage of having the club on plane is: The player requires less athleticism within the swing and thereby creating more consistency.

In the past golf professionals tended to teach three different swing planes.:



1. The more upright swing plane, this is a movement where the swinging plane was very steep and thereby being very narrow.
2. The neutral swing plane that was less steep and creating more width within the swing.
3. The flat swing plane going less up and more around the player's body.

I believe as many other teaching professionals that today within the golf sport, the technique has been reduced down to only two types of swings.

You can either have a two plane swing technique or a one plane swing technique.

Both techniques have produced world class players, for example the two plane swing: Jack Nicklaus, David Toms, Davis Love, Colin Montgomerie, Jim Furyk and the best example of a two plane swing is Tom Watson.

Here are some of the players with a one plane swing technique are: Ernie Els, Fred Couples, Paul Azinger, David Duval, Vijah Singh and the best example of a one plane swing was Ben Hogan.

Both techniques have their own sets of fundamentals. They are in some aspects of the swing distinctly opposite. It is not possible to determine, which technique will hit the ball furthest. As there are many more aspects of the physical nature of a player to be considered. The choice of technique is purely individual.

To help the golfer understand the affect and the reaction within the swing, I wish to point out that there are several very critical points within both techniques that must be understood.

I would now like to explain some of the differences within the two plane swing and one plane swing technique.

3.2.2 Looking at the two plane swing



The two plane golfer in his address position stands fairly upright to the ball, takes the club away with his arms and hands in a vertical movement, and simultaneously rotates the shoulders 90 degrees on a virtual horizontal line to the ground. With precise timing, tempo, rhythm and balance the golfer achieves a perfect two plane back swing. I would call this an arm driven, body assisted movement. Other professionals have different names: for example Leslie King called the same movement – **a free arm swing** - .

The arms move in front of the body and stay in front of the body throughout the swing. The rotational movement of the body is assisting the arm throughout the whole movement.

As the club is swung with the smaller muscles of the body, the player requires good timing, tempo, rhythm and balance to accomplish consistency.

A two plane swing has the naturally tendency to be **too steep and too narrow**. All the excellent information presented by fellow professionals is directly aimed at finding more ways to overcome these deficiencies of being too steep and too narrow within the two plane swing.

To prove that the two plane swing always had the technical fault of tending to be too steep and too narrow, I would like to analyse other past masters.

For example going back to Jack Nicklaus : he was always talking about keeping the club low along the ground and pushing the arms away from the body in the back swing, this was his way of trying to create more width.

Tom Watson and Tom Kite, both made an early release of their hands as they started the down swing. This was their way to create more width throughout the swing.

Going forward to the late 80's and the early 90's Jimmy Ballard telling the people to practise a golf swing with a medicine ball and move the sternum to the right within the back swing and back through to the left in the follow through. This was his individual way as a teacher of trying to take the steep and narrow movement out of the two plane swing and thereby creating more width.

The teachers of today will be telling you that many good players hang their head slightly backwards to the right in impact. This is also another way of shallowing out the swing, thereby creating more width. This movement only takes place in the impact position, if you have a two plane swing technique.

These are some of many good examples on developing width within the two plane swing.

3.2.3 Looking at the one plane swing



In the address position in the one plane swing the player has a wider stance, the upper part of the body is bent more over the ball and the player stands slightly further away from the ball. He starts the momentum of the back swing with a small movement of the arms and hands and turns the shoulder and torso immediately. He maintains his central position over the ball until the top of the back swing. The shoulders have rotated 90 degrees and the hips are turned 35 degrees. Due to standing more over the ball this reduces hip rotation

within the back swing.

The one plane swing player starts the down swing with an immediate rotation of the torso and the shoulders back to the ball. Through this big muscle movement the arms and the hands are pulled back down on the correct swing plane to the ball. This is what I call a body dominated arms assisted movement.

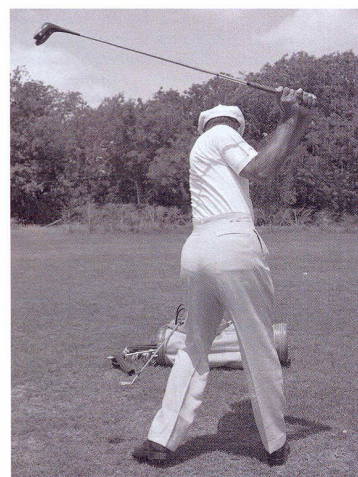
The natural tendency of a one plane swing is to be **too wide** and **too shallow**. This is the major deficiency within the one plane swing technique.

To rectify this problem the swing starts with the upper left arm staying close to the chest with very little rotation in the back swing.

Consequently due to the immediate turning of the torso the body weight is maintained central over the ball or even transfers a little to the left at the top of the one plane back swing.

This assists to create a steeper movement. It can even be seen from the back of a one plane swing player, that the left knee will drop in slightly, creating an optical illusion of a reverse pivot.

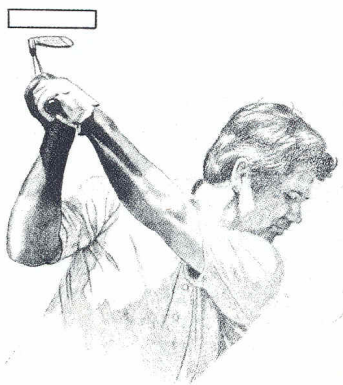
Analyse pictures of Ben Hogan, John Daly, David Duval or Jose Maria Olazabal from the back.



As the one plane swing player returns to the impact position you will see, that the spine angle and the head will go down slightly more towards the ball, the left leg will be straight and the body weight fully on the left side. Through the straightening of the left leg and the body weight being fully on the left side in impact, this is creating power and also assisting in taking the shallowing movement out of the swing, for example, giving a steepening angle of impact.

Further trademarks for a one plane swing are:

A closed face or a laid off club at the top of the back swing. These positions work in a one plane swing.



Going back there have been many good professional players with a closed face and a laid off club at the top of the back swing. Lee Trevino, Paul Azinger, David Duval to name but a few.

These positions work within a one plane swing technique. Having a closed club face at the top of the back swing is not a fault. As the club returns down it creates a steepening angle and assists in taking the excess width out of the one plane swing technique.

3.3 Ball position

Throughout my research in all golf teaching literature I could only come up with the conclusion, that throughout the golf teaching world, you have three opinions on the ball positioning within the stance.

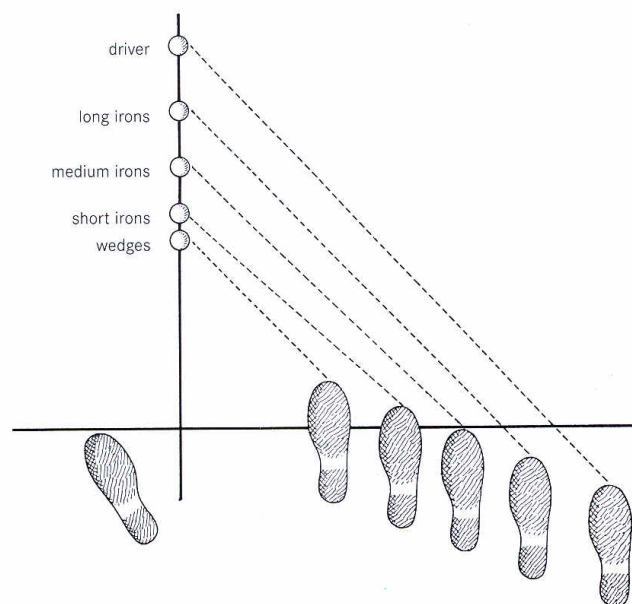
The first opinion is - **the traditional ball position** -.

It is general knowledge, that in the address position the ball is played from the left heel with a driver and progressively moving the ball back in the stance with all other clubs, ending with the position of the 9 iron and wedges in the same position.

The reason for this being, the 9 iron and all other wedges normally have the same length. The width of the stance is progressively reduced the shorter the club.

The second opinion is – **the one ball position** – for every shot.

This is the teacher who recommends playing the ball permanently from the left heel and adjusting the stance with the right foot respectively to the length of the club. For example: the shorter the club the narrower the stance, the longer the club, the wider the stance.



The third opinion is the – **teacher's individual preference** -.

This is normally a combination of the first two options : the driver and all other woods are played from the left heel, the longer and mid irons one to two inches back in the stance progressively and all shorter irons from 8 iron onwards in the middle.

I personally feel that the ball positioning is a very individual matter for every player. Most players are concerned with the ball position relative to the stance.

However, a more common error is **the distance from the ball**.

To obtain a perfect distance from the ball, the hands must be pointing slightly outwards and placed directly under the chin in the addressed position. This is applicable for both, the two plane swing and the one plane swing techniques.

May I point out, that the hybrid clubs should be positioned similar to a long iron.

I also believe, for an average golfer it is very difficult to follow the instructions of some teachers, when they start to recommend a closed stance with the woods: **the reason** being to assist the rotation within the back swing and a further recommendation to play the shorter irons with an open stance to create a steeper back swing.

Throughout my teaching experience I have observed, that most players with the exception of experienced players tend to exaggerate the given information.

Every player should try to identify for themselves their individual impact position within the swing plane. This is essential for a solid ball contact. Unfortunately the average player does not take enough time or pay enough attention to his ball positioning with the result of an unnecessary bad shot.

For example, if the player has the wood too far back in his stance, despite making a good swing, this would create an early impact position normally with an open club face sending the ball to the right of the target line.

It can also result in a steeper movement within the down swing. The impact position becomes too narrow, sending the ball straight up in the air, if the club face is square (the skied shot).

3.4 Hand action

I have no preference as a teacher with regard to an early setting or a later setting of the hands. From my point of view this is the player's personal preference.

The **early setting of the hands** is where the player starts to hinge their wrists immediately within the takeaway. When the hands are directly over the right foot, the shaft will be on a horizontal line to the ground and must not go behind the extended line of the toes. The second check point is just above the hip level, the wrists are fully hinged forming a 90 degree angle with the shaft and the left forearm. The end of the grip, otherwise known as

the butt – end of the club should now be pointing directly between the ball – target – line and the parallel line of the stance. In this position the player is controlling his plane line. A perfect example is the US Masters Winner Mike Weir. This is the last part of his pre – shot – routine.

Through the momentum of the swing and a 90 degree shoulder turn the player reaches the top of his back swing.

The **late setting of the hands** is where the player adopts a one piece takeaway to the right knee, simultaneously the shoulders start to rotate, between the right knee and the right hip the hand action starts to take place. At the top of the back swing through the swinging momentum there is a full 90 degree turn of the shoulders, the wrists are fully hinged, that the left forearm and the shaft of the club are showing a 90 degree angle.

Through my experience the problem has arisen, that the a late setting of the hands tend to pull the upper left arm away from the body within a one plane swing technique. This would create a so called disconnected swing and make the swing plane too steep within the back swing.

There are three different types of hand action within the golf sport.

3.4.1 Rotational role of the hands

The first is the **rotational roll of the hands**; this movement takes place directly after impact. The left arm stays close to the body, the hands and the underarms rotate simultaneously with the swinging momentum as the player continues into the follow through .

3.4.2 The push

The second hand action is called **the push**. This would normally be used by players with a strong left hand, as the hands are released in impact, the player holds his hands in the same position as he continues his follow through.

The best example for this type of hand action is Paul Azinger or in the past Arnold Palmer.

However, most golfers use this style of hand action with a shot that must be kept low under the wind. Normally named (a punch shot).

Tiger Woods uses the same hand action for his shot, called the stinger.

3.4.3 The hinge-slap

The third hand action is called **the hinge – slap**.

This technique is especially good for physically weaker players or ladies.

For this technique you have to imagine a diagonal line going from the left shoulder down to just outside the right foot. As the club comes down towards impact at the point of the diagonal line, the left hand would start to brake (slow down). Simultaneously the right hand would release and accelerate through the ball.

This type of hand action is especially good with a slightly open club face for short shots that require a virtually vertical flight path. It is also highly effective with bunker shots.

Henry Cotton gave these three hand actions their individual names.

He proved the hinge-slap technique by personally photographing a player executing this type of shot. You could clearly see the left hand, but through the acceleration of the right hand, the picture of the right hand was bleared (vague to see). Tiger Woods recently played this shot at a tournament in Thailand. After playing this shot, the American commentators were very surprised to see the amount of hand action for such a short shot. Especially the way the right hand accelerated through the shot.

Quote never seen that type of shot before.

I would now like to divide in more detail the two plane swing technique and the one plane swing technique by also using graphical drawing to help assist in the understanding of the differences within both techniques.

3.4.4 Summary of the ball position and the hand action

Please note, that ball positioning and hand action do not have any relevance in the break down of the techniques due to the player's individual preference.

They are however two very important issues, that must be explained, because they play a **major part in the explanation of both techniques.**

When a golf club is swung down towards the ball from the inside with an opening club face as the club comes into the impact position, this creates a shallowing out and slightly upwards movement of the club head within the golf swing.

If a player's club face is closing within the down swing, the toe of the club will turn inwards and the club head will drop down creating a steepening angle as the club returns into the impact position.

It is highly important to understand these principals. This will permanently be of assistance in correcting the natural deficiencies within the **two plane swing** and the **one plane swing techniques.**

4. The golf grip

Before going into detail of the variable types of grips within the two and the one plane swing technique, I would like to explain the positioning of the hands on the club that I teach and consider to be acceptable.



The first grip is the overlapping grip. Within this grip the little finger of the right hand overlaps the forefinger of the left hand and rests between the middle finger and the forefinger of the left hand. This grip is normally used by the majority of golfers that have normal size or larger size hands.

The second grip is the interlocking grip. The left hand remains in the same position on the club and the little finger of the right hand interlocks in between the forefinger and the middle finger of the left hand. This type of grip is normally used by golfers that have small hands.



I feel it is essential whichever type of grip the individual adopts, that the hands must be connected.

This promotes a unified use of the hands throughout the swing.

With the exception of children or people who suffer from arthritis I do not accept the so called “base ball grip”.

Over the years my experience has proved, that with this form of grip, as you go up into the mid irons and the longer clubs, that the hands start to separate due to the uneven pressure and consequently work against each other.

It is of no teaching value and purely coincidental, that two of the greatest golfers within our time: Jack Nicklaus and Tiger Woods both use the interlocking grip.

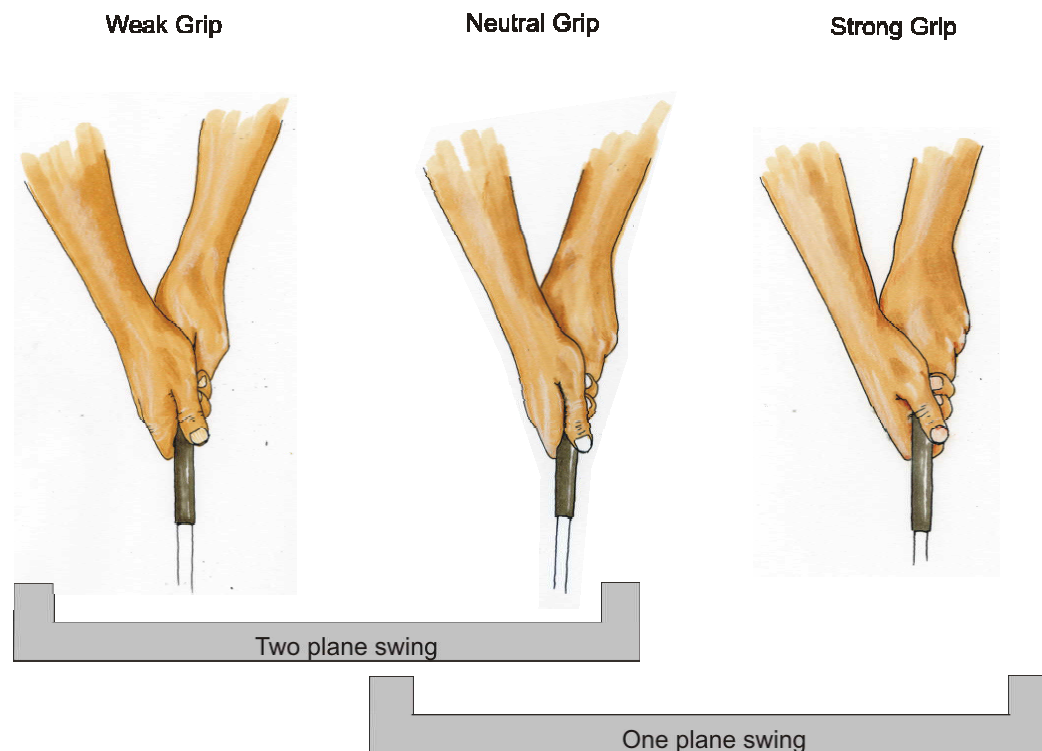
4.1 The two plane grip

The two plane grip should be **neutral and weak**. Neutral grip meaning: the hands are placed evenly in the centre of the club handle, the left hand would be showing two knuckles, as you look down from your address position.

Weak grip meaning: the hands are placed slightly left of centre of the club handle and the left hand will be showing only one knuckle as the player looks down upon the grip from his address position.

The explanation for a weaker grip is, that the two plane swinger benefits from a club face, that is slightly open, as the players tends to move the club along an arc that would

generally be a more upright and steeper swinging movement. An open club face at the top of the back swing, as the club returns down on the inside, this will create a more shallowing – out movement within the down swing, which would result in more width and compensate a swing arc, which is slightly too upright and too steep.



4.2 The one plane grip

The one plane grip should be **neutral or strong**. Neutral grip meaning: the hands are placed evenly in the centre of the club handle, the left hand would be showing two knuckles, as you look down from your address position.

Strong grip meaning: the hands are placed slightly right of centre on the club handle. The left hand will be showing three knuckles and the right hand will be turned slightly to the right as the player looks down upon the grip from his address position.

The explanation for a strong grip:

The three knuckle grip encourages the club face to be more closed in relation to the swing path, as the club returns down; this creates a steepening angle, which assists in reducing the excess width within the one plane swing.

4.3 The grip pressure

Most golfers are fully aware of the difficulty in maintaining a good golf grip and have problems in keeping a consistent grip pressure. The easiest way to understand the reaction of the golf shot relative to the grip pressure would be by creating a psychological scale of grip pressure from: **zero to ten**.

Zero meaning: the grip slides slightly through the fingers.

Ten meaning: holding the club as hard as you possible can.

Through hinging your wrists up and down and relaxing the grip slightly, you can now start to develop the very important grip pressure five.

The grip pressure **five** is used for all normal full golf shots.

However, when it comes to playing approach shots, the grip pressure determines the flight path of the ball. By making a pitching wedge shot of approximately 50 meters with a grip pressure of five, you will achieve the normal flight path. With a grip pressure of **seven**, this will reduce the amount of hand action within the back swing, thereby keeping the flight path of the ball lower.

By relaxing the grip pressure down to **three**, this will allow more hand action within the back swing and creates a much higher and softer flight path.

As a teacher I recommend to my pupils the permanent practise of grip pressure, as this assists in developing feeling in relation to the hands and the club head.

A good grip pressure is the first step to a good fluent golf swing.

5. The address position

In my attempt to make it easier to understand I will divide: the **address** and **posture** position in to two individual elements.

As a teacher I emphasise to my pupils the importance of a good stance and address position, as this will create a good fundamental basis to start the swing. This is by no means a natural standing position. The player should try to perceive the address position as an athletic starting point, that determines not only the direction to the target, but also the swing plane, that the club travels on.

5.1 The two plane address position



The obvious identification of the two plane swing address position: the player will stand more upright and closer to the ball as in the one plane swing.

The width of the golfer's stance in the address position can be identified by drawing a vertical line from the inside of each foot going directly upwards to his armpits. The player should stand with both feet on a parallel line to the ball - target – line. The right foot must always be square. The left foot can be up to a maximum of 45 degrees open to the target line.

The shoulders and the hips must also be square to the target line. The left shoulder will be higher than the right shoulder. Due to this position the arms and the hands will be slightly left of centre, showing the positioning of the hands on the handle of the club nearly opposite the left thigh.

The right knee will be bent in slightly towards the left knee, creating a form of a reverse “K - position“. Otherwise known as side bend. It is advisable, that the player does not create more than 10 percent side bend in his address position. At

this point the body weight would be distributed 40 percent on the left side and 60 percent to the right side with a driver.

However the weight distribution with irons should be equally distributed fifty – fifty on both feet.

Explanation: The reverse “ K – position “ or the 10 percent of side bend assists the two plane swing in creating more width throughout the swing and simultaneously helps to compensate an impact position, which tends to become too steep and too narrow within the two plane swing.

5.2 The one plane address position



The obvious identification of the one plane swing address position: the player is bent more over the ball and stands further away from the ball. The one plane swing stance within the address position will be a slightly wider stance and the player will stand further away from the ball than within the two plane swing. The player may stand parallel or slightly closed to the ball – target – line. The width of the golfer's stance in the address position can be identified by drawing a vertical line from the inside of the feet to the outside of the shoulders. The right foot must always be square. The left foot can be up to a maximum of 45 degrees open to the target line. The shoulders and hips should be square to the target line; however they may also be slightly open to the target line. Within this address position the legs have slightly less knee bend, than within the two plane swing. The upper left arm will stay close to the chest. The left shoulder is virtually level to the right shoulder taking into consideration the right hand is lower

than the left hand on the grip. Due to this position the arms and the hands will be more central in the address position. At this point the body weight distribution of the one plane swing will be fifty – fifty with all woods and irons.

Explanation: a closed stance makes it easier for the player to rotate and swing more on the inside within his back swing. Some professionals indicate that the shoulders and hips are open as the player completes his address position. The easiest way to explain this is: if the shoulders and hips are open, the arms are normally positioned firm to straight, with the right hand being lower on the club. This forces the right shoulder to move forward towards the ball and will create a slightly open position within the address.

I personally like to teach the soft arm address position. This means less tension within the arms. The left arm still maintains his straight position and the right elbow will naturally drop slightly inwards towards the right hip, creating a square shoulder and hip position within the players address. The soft arm address position will also create more feeling and generates more club head speed throughout the swing.

5.3 The two plane posture



Analyzing the control points within the posture position from the side of the player:

The upper body will be bending forward to the ball by approximately 20 degrees from a vertical line. The percentage of knee flex can be controlled by the player looking down and creating an imaginary line to the middle of his shoes.

The shoulders will be directly over the front of the player's toes. The hands should be directly under the chin. One more critical point is very often forgotten and creates balance problems within the swing this is the angle of the players chin. The chin itself should be nearly horizontal to the ground in the address position.

5.4 The one plane posture

Analyzing the control points within this posture position from the side of the player:

The percentage that the player will bend forward over the ball is relative to his size. This can be as much as 45 degrees forward from vertical. The knees have less flex and are slightly straighter than in the posture of the two plane swing.

The shoulders will be considerably further forward. By the drawing of a vertical line down from the shoulders this will end in front of the toes. The hands should be directly under the chin. The chin itself should be nearly horizontal to the ground as in the two plane swing.



5.5 Summary of the address and posture position

In the two plane swing address position the player stands upright and closer to the ball, distinctly opposite to the one plane swing address position, where the players upper body is bent more over the ball and thereby stands further away from the ball.

In most of the golf teaching manuals the authors tend to recommend, that when the player completes his address and posture position, the body weight should be minimally forward and slightly inward, basically centered on the balls of the feet.

The reason for this recommendation is to create a dynamic balance starting position.

My professional opinion : even though the advice is technically correct, this is such a sensitive change of balance, that the normal golfer would have great difficulties in feeling the difference.

A good posture position will automatically adopt a different angle through the length of the various clubs.

Last but not least I would like to discuss the **myth** of keeping your **head down**. This saying is misleading information. That causes a chain reaction starting with bad balance, lack of rotation or even too much movement of the head within the back swing. As the human can only coordinates through the optic (eyes), it is better to advise the player to keep his chin up, as he takes his posture position, this will allow the shoulders to rotate without obstruction. By keeping the eyes on the ball throughout the back swing and through the impact position, the eyes continue to follow the ball as the body and the head turn to complete the follow through.

Many of my pupils started golf after previously playing tennis. I always like to remind them of what their tennis teacher used to say: Keep your eyes on the ball until you hit it.



6. The back swing

6.1 The two plane swing back swing

The swinging momentum starts by the club being taken away from the ball with the arms and the hands up to the right knee. At this point the shoulders start to rotate 45 degrees to hip height. The shaft of the club is now parallel to the ground and the target line.

Through this movement the shoulders and the arms create a triangular image. As the swinging momentum continues



and hand action occurs, the right elbow will start to fold, so that the arms may swing on a more upright plane.

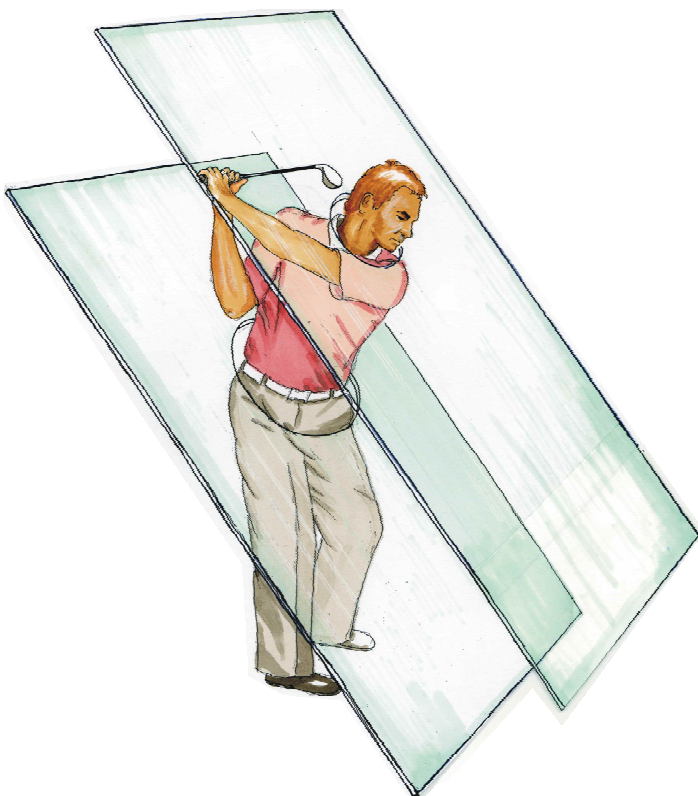
Simultaneously the shoulders continue to rotate 90 degrees to the target line on a virtually horizontal plane. At the top of the back swing the position of the arms and hands will be higher than shoulder level. At this point the underside of the right arm should be horizontal to the ground.

The hips have now rotated 45 degrees and the club head should be square to the target line or even open. Through the swinging momentum the body weight transference is now 70 percent on the right side and 30 percent on the left side.

Please note, that throughout the entire movement the right knee acts as a pillar for the back swing and should not move as the upper body rotates against the resisting lower body.

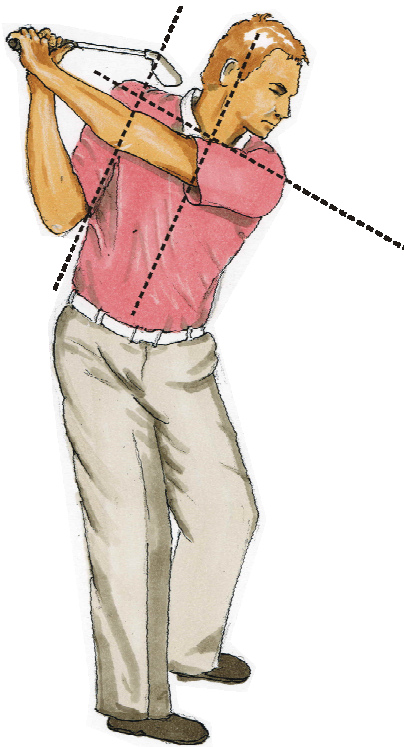
Explanation: An open club face at the top of the back swing will create a shallowing out movement as the club returns down on the inside to the ball and thereby assists in taking the natural tendency of being too steep and too narrow out of the two plane swing.

6.2 The one plane back swing



To start the back swing the swinging momentum begins with the arms. The upper left arm must stay close to the chest. The shoulders and the torso will start to rotate immediately.

Simultaneously the right elbow will assist in pulling the club back on the inside. As in the two planes swing at hip height the shaft of the club is now parallel to the ground and the target line. However no triangular image can be seen, as in this position the right elbow must be behind the seam of the trousers.



As the swinging momentum continues and the hand action occurs, at the top of the back swing, the hands, left arm and the shoulders will all be on the same plane.

Simultaneously the right arm will have folded due to the hand action; the upper right arm should now be on a parallel line to the spine angle, which must remain in a central position over the ball.

The club should be pointing down the target line with a square club face, however within the one plane swing technique it may also be laid off at the top of the back swing with a closed club face.

The shoulder rotation is 90 degrees, but due to the straighter leg position, the hips only have a 35 degree turn.

A good identification point for the one plane back swing:

By drawing a line from the left shoulder down to the ground, the line should end beyond the ball within a radius of one yard. Within this movement there is no weight transference to the right, due to the immediate turning of the shoulders and the torso.

The body weight maintains a central balance position of fifty – fifty at the top of the back swing. By viewing this style of swing from the back, you can see, the left knee bends in slightly. This creates the optical illusion of a reverse pivot.

Explanation: Maintaining the upper left arm close to the chest throughout the back swing, this assists the player to create a steeper movement and ultimately helps in taking the natural tendency of being too wide and too shallow out of the one plane swing.

Within this technique it is not necessarily a fault, if the players club is laid off with a closed club face at the top of the back swing. As the closed club face returns in the down swing, it will create a steepening angle through the impact position. Here again assisting in removing the excess width out of the one plane swing.

6.3 Summary of the two plane and one plane back swing

By comparing the two plane back swing with the one plane back swing, there is a significant difference to be seen. For example: within the two plane swing the club is taken away with the arms and the hands, as the body assists through the rotation of the shoulders and the hips. Within the swinging momentum the player purposely transfers 70 percent of his body weight on to the tight side. At the top of the back swing it is easy to identify, that the arms and the hands swing on a more vertical plane line as the shoulders rotate on a virtual horizontal plane.

Comparing this movement to the one plane back swing, where the swinging momentum starts with the arms and an immediate turning of the shoulders and the torso, thereby creating a rotational movement around a central spine angle, as the player maintains his body weight central over the ball.

This is just one of many distinctly opposite movements within the two different golf swings.

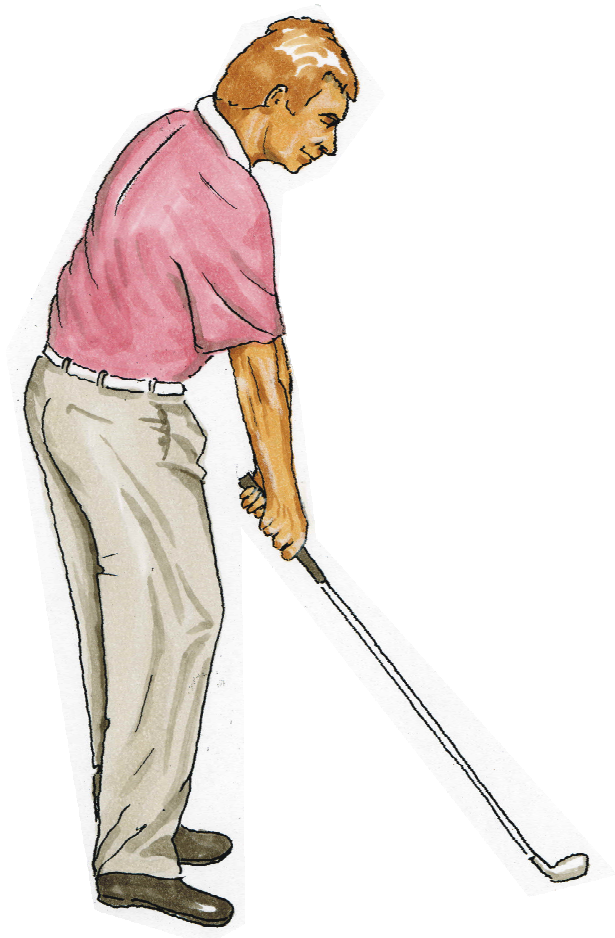


7. Downswing and impact position

7.1 The two plane down swing and impact position

The down swing is started by the left knee and the left hip with a lateral sliding movement towards the target. Through this movement the hips and the body will start to unwind and rotate as the players body weight transfers back on to the left side. Simultaneously from the top of the back swing the arms and hands separate away from the shoulder, creating more width as the club returns down on plane and starts to accelerate as the player enters into the impact position.

In impact the left foot is fully on the ground with a straight left leg, the right heel will be slightly raised as the right knee starts to join the left knee. Through the rotational motion the hips are slightly open, however the shoulders will be square to the target line, as the hands release in the impact position.



At this moment the spine angle has decreased, indicating that the player is more upright in his impact position.

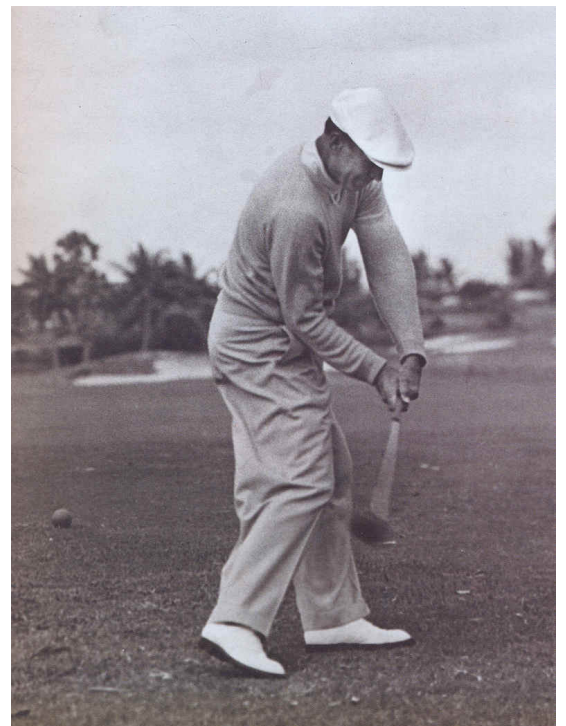
By some players you will also be able to see the head of the player hanging back slightly to the right. This position normally assists the long – hitter to create more width throughout the impact position.

7.2 The one plane down swing and impact position



Through a small rotation of the hips, this will ignite the start of the down swing. Through this movement the down swing starts with an immediate turning of the shoulders and the torso back towards the ball, at this point the arms and the hands remain passive. The left hip will continue to rotate and assist the spine in maintaining its central position. Through the swinging momentum the arms and the hands will automatically return to the ball on the correct plane line. As the player commences on into the impact position the body weight will transfer onto a straight left leg. The sternum maintains its central position as the shoulders and the torso rotate around the spine. As the player enters into the impact position the hands have started to release. In

impact the shoulders and the hips are approximately 20 degrees open. The spine angle normally maintains its position, however it can also increase. At this point within the impact position the right shoulder will be at its lowest. This is the previous position of the left shoulder at the top of the back swing, indicating, that the shoulders have returned on plane.



7.3 Summary of the two plane and the one plane down swing and impact position



I believe as I previously said that within the golf sport there are two techniques with two sets of fundamentals. There is no part of either technique, where this is more **apparent** as in the start of the down swing and in the impact position.

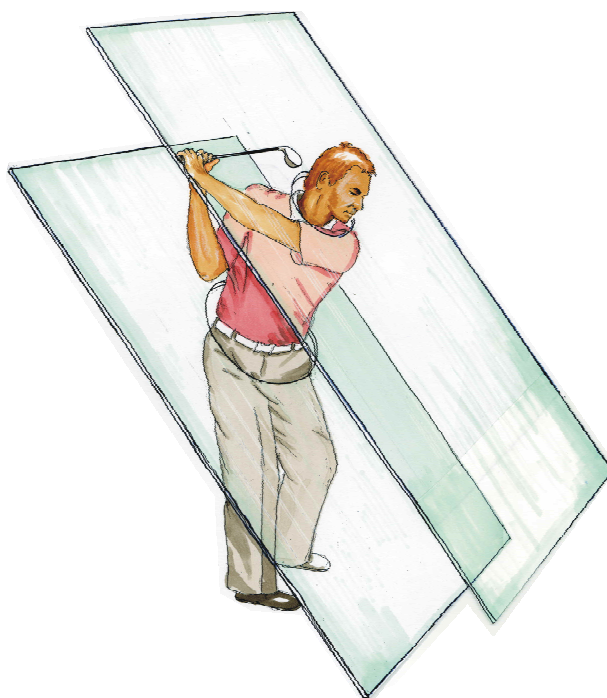
The two plane swing is an arm motivated body assisted movement, the club is most certainly swung with the arms and hands and the body reacts.

At the start of the down swing a lateral movement of the hips occurs, the left hip moves parallel to the target line and simultaneously the arms must separate from the shoulders.

As the player returns into the impact position he is straightening the spine angle and moving slightly more upright into his impact position.

This is a complete **contradiction** to the movements made by a player with a one plane swing.

He plays with a body dominated arm assisted movement. The player starts the down swing With a slight rotation of the left hip, that ignites the big muscle rotation of the shoulders and the torso as the player returns into the impact position. The player is maintaining his spine angle position over the ball and in some cases increases it - going down into and through the impact position, as he hits against the left leg.



8. The follow through

8.1 The two plane swing follow through

The hands have released through the impact position. Through the swinging momentum the arms start to rotate slightly left of the target line. Simultaneously the right heel has risen, as the right knee starts to move close to the left knee. This assists in the rotation of the right hip and the right shoulder as the player starts to complete his follow through. By approximately hip height the hands will start to recoil over the left shoulder. Through the swinging motion the end – position is now: the hips and the shoulders have turned 90 degrees to the target line, the upper left arm should be horizontal to the ground forming a virtually 90 degree angle with the left forearm. The club shaft is now behind the back of the head. The right foot is up on the toe and the right knee has now moved close to the straight left leg. The body weight has returned back to a central balanced position.

8.2 The one plane swing follow through

Through the shoulders and the hips being at least 20 degrees open in the impact position and the left arm staying closer to the chest, the arms and hands will rotate more around the body on the inside, as the player starts to complete his follow through.

The end position will be similar to the two plane swing, his hips and shoulders have also turned 90 degrees to the target line, and the left upper arm should be horizontal to the ground forming a virtually 90 degree angle with the left forearm. The club is now behind the back of the head. The right foot is up on the toe and the right knee has now moved close to the straight left leg.

The body maintains balance however the distribution is more on the left leg.

8.3 Summary of the follow through

By the observation of the two plane swing, many professionals like to make the mirror – effect comparison, which means that at the top of the back swing this position is very similar to the end position of the follow through.

However this does not apply for the player with the one plane swing. The reason for this is due to the player being bent more over the ball in the address position, as he extends into the follow through the body will rise automatically into a more upright position as within the back swing.

I personally like to emphasis the importance of a follow through to all my pupils. Despite the ball being in flight, I feel a completed follow through assists the average golfer in maintaining the direction and will assist in establishing a well balanced swing.

I am well aware, that many well – known professionals make virtually no emphasis to this part of the golf swing.

Quote: the follow through is only the result, of what has previously happened within the swing. (Jim Flick, New Orleans US PGA Teaching and Coaching Summit 1998.)

Quote: the best definition for a follow through that I have heard: the follow through is nothing more, than a braking vehicle within the golf swing.

(John Jacobs, San Roque a “Teaching the Teacher Course“ 2000).

The revised and updated version of the US PGA Teaching Manual of Golf printed in May 2002. The author is Rick Martino with the assistant of Don Wade. This teaching manual consists of 242 pages referring to virtually all aspects of the golf sport. I can highly recommend it, however throughout the 242 pages there is no reference made to the golfers' follow through.

9. Advice on golf clubs

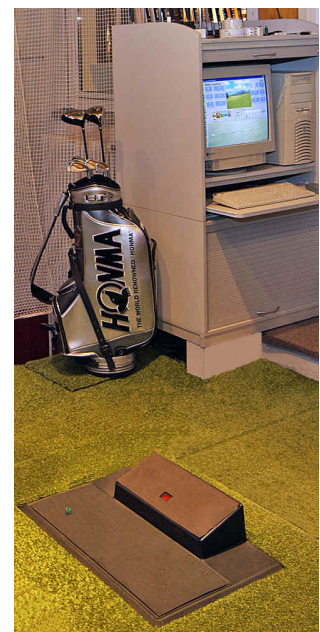
Having had the pleasure of completing my PGA apprenticeship in 1974 under the golf professional Mr. F. C. Lloyd, who's previous employment was with the "Royal Bombay Golf and Country Club". As you can well imagine, he had a slightly old and colonial school attitude with regard to his assistants. Within this time one of my duties were to make golf clubs out of raw materials, for example a driver head out of solid block of wood. Inserting the swing weight by pouring hot liquid lead into the back of the wood head to create the swing weight. In my time I produce many sets of woods, which we sold in the shop, after being French polished. This was one of my specialties in producing wooden clubs. Further more within this time, I repaired literally 1000 of golf clubs, from rebinding to re-shafting and of course re-gripping, ending the lofts and lies, mainly with irons. I believe that I had a comprehensive practical education in the understanding and making of golf clubs.

Today there has never been so much information available for the average golfer with - regard to the choice of his equipment. The myth of stiff shafts for the good player and a regular shaft for the normal player has just about disappeared. This is good news, when you take in to consideration that the golf companies nowadays tend to make up their own specifications of what a soft, regular, stiff and extra stiff shaft is – in my opinion – without any form of consistency and regulation. In this material world of confusion I can only advise the following guidelines:

9.1 The shaft

The **shaft is the motor** of the golf club and similar to the automobile industry, the motor is the most expensive part of the product. The shaft is responsible for creating distance and consistency for the player or conversely the player can loose distance through having the wrong type of shaft.

The most precise form of shaft analysis nowadays is through the use of a launch angle computer, which the majority of the golf companies



normally offer at their fitting centers. This machine tells you everything that has taken place within the golf swing. The most important information issued is the launch angle and the club head speed that directly determines the flight path and the distance that the swing produces.

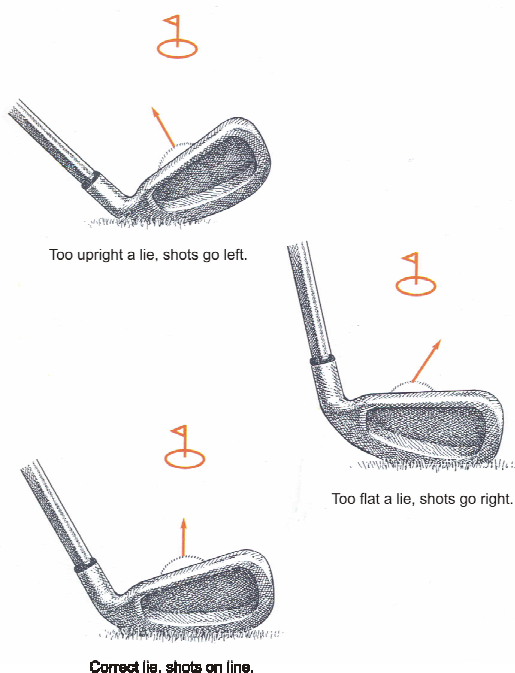
If the player does not have the possibility to visit a fitting center, another good alternative is by taking a golf lesson with an experienced golf teacher to determine the right shaft for your type of swing. This lesson will normally take 30 minutes and within this time the teacher will analyze your swing tempo, timing and the rhythm of the body. After this lesson the teacher will be able to make a serious recommendation on the type of shaft suitable for swing.

9.2 The lie angle

The lie of the golf club, this is the angle in relation to the ground, that the club lies on.

This is an important issue to be considered. Mainly thanks to Mr. Karsten Solheim and his Company PING, over the last 30 years they have been at the forefront for bringing this issue into the normal golfer's vocabulary and consideration.

A player who stands upright in his address position and consequently relatively close to the ball would normally play clubs with a more upright lie angle, for example: a player with a two plane swing.

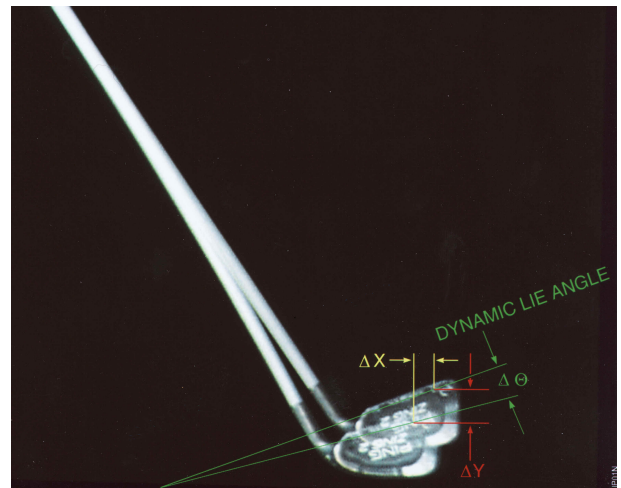


Conversely a player, who is bent more over and stands further away from the ball in his address position would normally play with clubs which have a flatter lie angle, for example: a player with a one plane swing.

An old way to identify, that the club lie angle is correct to the ground, is – in our days - by being able to slide a two Euro coin under the toe of the club head, it should be able to slide under to approximately one third of the size of the club head. The explanation for this is, the fact that the toe of the club head must be higher in the address

position is directly to do with the centrifugal forces of the shaft, which are created through the swinging motion.

Basically a golf shaft bends in two ways. The first is through the flexibility of the shaft. That will normally assist in creating club head speed. The second way that the shaft bends is through the centrifugal forces. The shaft will bow downwards, slightly towards the player, thereby flattening out the club head in the impact position.



The effect of speed on the lie angle

Without going deeper into technical details, if a lie angle is too flat for a player, the consequence is normally an open club face in impact position. Conversely, if the lie angle is too upright for a player, the consequence is normally a closed club face in impact position. Further assistance and information on this subject should be individually discussed with your teaching professional.

10. My teaching philosophy

It is general knowledge, that a good golf teacher has many different ways of achieving success with his pupils.

I strongly believe, that a golf teachers' success can only be maintained through permanent educational development.

Since the late 80 's and the beginning of 90's the US PGA, the British PGA and the PGA of Europe are organizing Teaching and Coaching Summits for the professionals.

As the third largest PGA in the world, the PGA of Germany offers a very comprehensive catalogue of courses for their members. My further teaching education and development as a golf teacher derives directly from participating in many the above courses.

Through the history of golf there has always been two different ways to swing a golf club. The two plane swing and the one plane swing.

As you can see from the titles of this thesis naturally over the years the player of the day influenced the style of swing that golf professionals and the industry promoted. Looking back not so long ago to the era of Jack Nicklaus, with his influence, and then came along the square to square method.

In the late 80's, early 90's we all returned back to the Ben Hogan style of having more rotation within the swing. Now since the mid 90's it appears to me, that most teachers only seem to teach the two plane swing. This style of golf swing is most certainly an arm dominated body assisted movement.

This is a very good technique that many tournament professionals use very successfully. However it should not be ignored, that there are possibly more successful tournament professionals playing with a one plane swing technique.

It is my philosophy, that the teachers of today should be aware of both techniques and both sets of fundamentals. That is nothing new as you see from the book with the title "GOLF", by Bob MacDonald published in 1910. Throughout the whole production of this thesis my

aim is only to remind golfers, that there are two techniques within the golf sport. I do not believe that you will achieve consistency in the golf swing by mixing the elements from one swing and attempting to build them into another style of swing. I would personally feel that this work would be a success, if it could possibly assist a golfer to understand the direct differences between the two plane swing and the one plane swing technique.

I would like to end with a quote from Paul Runyan, taken from his speech in 1990 at the Tommy Armour US PGA Teaching and Coaching Summit in Nashville, USA:

“I do not believe there is anything new said in golf. It is only being presented differently.”

Through my research of both new and old golf teaching literature, I can only sincerely agree with the above quote.

11. Bibliography

Bibliography of the photos and graphic design pictures used in the presentation
of Bernard A. Kennedy:

Book: Golf **Author** Bob MacDonald Chicago, USA 1910
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Presentation: page 1

Book: Better Golf in 5 Minutes **Author** J. Victor East New Jersey, USA 1956
Page 104, 105, 106
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Book: The Fundamentals of Hogan **Author** David Leadbetter London, GB 2000
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Page 41, 119, 9, 43
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Page 28, 87
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Book: 100 % Golf **Author** David Leadbetter London, GB
Page 26, 27 2. Edition 2004
Presentation: page 19, 20

All other graphical pictures with the exception of the effect of speed on the angle (Photo done by the Homna golf Company, page 31, and also by the PING golf company, page 33) were produced by the graphic design house Geisser, Immenstadt 2006, Germany.
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