

# **The theory of power, Taekwon-Do training secrets and breaking techniques**

## **Him Ui Woll**

The Encyclopedia written by Founder General Choi Hong Hi provides an explanation of the key skills required to apply 100% of our own capabilities.

If we did not train in these skills, we would only be able to use 10 to 20% of us.

This would mean that it would not be possible to perform severe breaking tests.

It is therefore important that we learn to understand the skills and how we can best apply them.

It is more important that Taekwon-Do training achieves a high level of reaction speed, concentration, balance, breath control and speed.

In this thesis I would like to substantiate breaking techniques on the basis of the theory of power and the Taekwon-Do training secrets.

An extensive thesis of more than 100 pages is available in Dutch.

The Theory of Power is divided into:

1. Bandong Ryok retroactive.
2. Jip Joong - concentration.
3. Kyun Hyung equilibrium or balance.
4. Hohup Jojul - controlled breathing.
5. Zilyang mass.
6. Sokdo - speed.
7. Sokdo wa Banung speed and response.

The Taekwon-Do training secrets are divided into:

1. To study the theory of power thoroughly.
2. To understand the purpose and method of each movement clearly.
3. To bring the action of eyes, hands, feet and breath into one single coordinated action.
4. To choose the appropriate attacking tool for each vital spot.
5. To become familiar with the correct angle and distance for attack and defence.
6. Keep both the arms and legs bent slightly while movement is in motion.
7. All movements must begin with a backward motion with very few exceptions. However, once the movement is in motion it should not be stopped before reaching the target.
8. To create sine wave during the movement by utilizing the knee spring.
9. To exhale briefly at the moment of each blow except a connecting motion.

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## Bandong Ryok - opposite force

According to Newton's Law, every force has an equal and opposite force.

This can be compared to when trying to break a board.

When one executes a thrust against this board with a force of 100 Newton, the performer will also receive an opposite force.

The amount of this opposite force is equal to the force of the impact minus what is absorbed by the material to be broken as well as by your own body.

Against every action there is always an equally great opposition

In formula:

If body 1 exerts a force  $F_1$  on body 2, then body 2 exerts an equal but opposite force

$F_{total} = F_2 - F_1$  on body 1.

You can imagine that if the material to be broken also goes towards your hand at a speed of 100 Newton, the collision will go even faster and will therefore also produce a greater opposing force.

Another example is the following:

when a martial arts practitioner wants to break a brick, for example.

To facilitate this, the operator can lay 2 bricks on its side with the brick to be broken on top longitudinally.

If you now slightly lift the brick to be broken and let it fall when the brick is hit with a knife blade, the brick will have to be able to withstand the force of the impact of the hand and the impact of the supporting brick.

By adding these 2 forces it is therefore easier to break the brick in this way.

Another opposing force is your own.

For example:

A punch with the right fist will increase the speed when pulling the left fist towards the hip with an equal quick motion.

Because both arms have the same length and mass and have the same muscles, these muscles may be able to start the thrusting movement simultaneously.

Of course it is better to have multiple muscle groups such as the legs and hips participate in the final punch.

Because the legs and hips have larger and slower muscles, they will have to start earlier to ensure that at the end of the punch all movements can be stopped simultaneously.

This is extremely important if our muscles are to be able to work together.

As a rule you can apply that one starts with the larger slower muscle groups and as the technique progresses one adds the faster smaller muscle groups.

## Kyun Hyung - equilibrium or balance

Equilibrium or balance depends on the location of the center of gravity, but the size of the support surface is also important.

The longer or wider the stance, the lower the human center of gravity will be, and thus the stance will be more stable.

Compare this, for example, with the Walking stands-Gunnun Sogi or Closed stands-Moa Sogi. With the Gunnun sozi, the support surface (the stand) is longer and wider, which gives us more stability, compared to the Moa sozi.

Also, with the Gunnun sozi, our body is lower and so is our center of gravity, which is just below the navel.

Our body will strive to keep the body's center of gravity above the support surface as much as possible.

The body will do this by moving other body parts to prevent loss of balance.

In the breaking tests we can use this data to increase our speed of the technique.

By being out of balance during the preparation of the breaking test, and when one hits the material to be broken, to be back in balance and by applying a firm stance.

It is a given that the fall acceleration of our body continues at a speed of 9.81 m / s.

So when we bring our body out of balance in the right way and “fall” towards the material to be broken, the speed of our mass will increase because of the imbalance of our body, so that our technique can produce great force.

On the other hand, you can imagine that if, for example, we push forward at the material to be broken and let our body “fall” backwards, the final force developed will not be optimal.

Exercises:

Of course the normal Taekwon-Do workouts contain countless balance exercises, but we can also use a few tools for these exercises. The balance beam is of course 1 of the best known.

You can of course practice all the usual Taekwon-Do steps on this bar. Also a good variation on this is the balance board, which is easy to make yourself and use at home.

One cannot train on the stairs here, but one learns to maintain a good weight distribution.

For this one takes a round pipe with a diameter of about 110 mm and 30 cm long.

Saw a board measuring 30 cm wide by 60 cm and place the center of this board on top of the pipe.

Now take a firm stance on the board, and try to maintain your balance.

## Jip Joong - concentration.

The concentration that must be obtained for the breaking test is divided into 2 types of concentration, namely:

1. Concentrating on the correct execution of the technique.
2. Concentrating on the target to be hit.

1.

Concentrating on the correct execution of the technique.

The technique itself naturally requires endless and disciplined training.

This means that we are able, with a perfect execution of the technique, to send 100% of our possible power to a point, the weapon.

In my view, the weapon is the part of the body that is used for the breaking test.

It is important to choose to use as small a part of the body as possible, provided that our body allows this.

Sometimes it can be important to increase the area of your body to be hit in order to spread the force of the impact.

Remember:

The smaller the area to be hit, the greater the force that can be transferred.

For the material to be broken, the smaller the material to be broken (of the same material), the more force will be required to break this material.

The same applies if you want to walk in a high pack of snow, you understand that it is wise to use as large an area as possible to walk on this snow.

Simply put, it is better to use a pin to puncture a balloon than a broomstick.

2.

Concentrating on the target to be hit.

Second, it is important to focus on the target to hit.

Normally you choose the center of the material to be broken.

You can take a moment to “take in” the goal and thus allow your brain to focus where the movement should go.

The more often this is trained under the same conditions, the easier it will be for the brain to perform this movement in the same way.

You can also use visualization without using the right training tools. This means that the brain is given the idea that your body is performing the technique without actually making the technique.

Several studies have shown that this is an excellent training method.

Try to see the target and not just look at it!

To train whether the coordination between brain and the weapon to be used is good, you can, for example, draw a small circle on a cushion and try to get as close as possible to this point with the technique.

## Hohup Jojul - controlled breathing

Breathing is of course the most important for the execution of our breaking technique, without sufficient oxygen our body will not be able to function properly.

If breathing is not applied properly during the break test, our body will do everything it can to get enough oxygen for the brain in the first place.

Our body will therefore pay less attention to our execution of the technique.

Which will result in less power.

Breathing out slowly goes "by itself". The ribs drop down under their weight and the diaphragm takes on its convex shape.

The way of oxygen

1. nasal cavity
2. pharynx
3. larynx
4. trachea

Bronchi

6. pulmonary vesicles
7. red blood cell
8. hemoglobin.

Oxygen is used in cells to burn glucose.

The combustion of glucose provides energy.

When sugar is burned in the cells, CO<sub>2</sub> is released, which goes with the veins to the heart and from there with the pulmonary artery to the lungs.

Oxygen travels with the pulmonary vein to the left side of the heart and from there through the aorta and arteries to all organs.

It is important to note that there are several types of breaths, each with their own purpose.

I can distinguish these in:

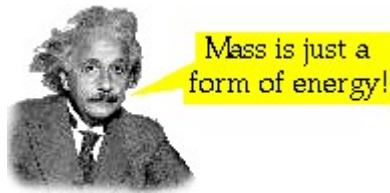
Clavicle breathing

Diaphragm breathing

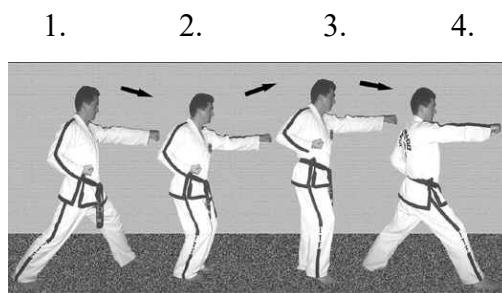
-Abelly breathing

With the breaking technique, make sure to exhale forcefully at the right time so that muscles can contract properly to absorb the impact and the speed can be transferred to the object to be broken.

## Zilyang -massa



Mathematically, the kinetic energy or force is obtained from maximum body weight and speed. It is very important that body weight increases during the execution of a stroke. We can do this by using the so-called sine wave. The aim is to drop our hips and thus our body weight in our technique in order to get an even more powerful movement. We do this by making proper use of our knee joints.



1. Starting position from gunnun so kaunde ap jirugi
2. Bending our knees about 30 degrees causes our body to sink slightly.
3. To then be able to push our body upwards just before the punch is taken by almost extending our knees.
4. Our body will now “fall” into the final thrust and thus have used our body weight for the technique.

This “falling” is also supported by the attraction of the earth, also called Newton's law. The law of gravity is Newton's best known, but he has done much more for science. And he also made some laws of motion:

1. Any body on which no external forces act remains in a state of rest or in a uniform movement along a straight line.
2. When a force acts on a body, the change in the amount of movement of the body is proportional to the force and the changes in the direction of the force.



In formula:

If a force  $F$  acts on a body with constant mass  $m$ , then that body undergoes an acceleration  $a$  according to  $F = ma$ .

(More generally,  $F = P$ , where  $P = mv$

Newton's 3rd Law is listed retroactively.

Without a doubt, maximum body weight is used when we rotate our hips vigorously.

In this way the hips and our mass rotate in the same direction as that of the weapon with which the breaking test is made.

Founder General Choi Hong Hi states that when you learn the art, both in theory and in practice, you will surely find a scientific basis in the movements and furthermore, the real

power that comes from a small human body will continue to amaze you.

If we look at the maximum mass that we can transfer with our body on a board to be broken, for example, we can see that not only our body weight helps in the execution of the breaking techniques.

Better we can say the mass that we transfer to the board depends on our posture of our body. For example, someone with a body weight of 70 Kg can break more than someone with a weight of 80 Kg.

I would like to make this clearer on the basis of the photos below.





Imagine a Taekwon-Do practitioner measuring his right side kick for his break test. (see photo 1)

As you can see, the person chooses to measure on the board.

His supporting leg is straight and therefore also when he performs the breaking test, no mass over his body is stable (in balance).



Photo 2 shows that the Taekwon-Do practitioner chooses to kick through the boards. His kicking leg is bent and his standing leg is still straight. In this case, too, he cannot transfer mass to the board to be broken.



Also, this way of measuring will often result in the boards not breaking because we often push ourselves away because we want to stretch our leg at the moment of hitting. (photo 3) It can also be seen that we are dealing with an angle in the knee that will lead to the dissolution of powers that I would like to return to later on in the secrets of Taekwon-Do.



In picture 4 we see someone who chooses not to measure, but does so in his mind.

He chooses to take a great distance.



I take 1 step in order to develop a greater speed.



This, when done correctly, will result in the supporting leg pointing forward at the moment of impact.

In this way, the operator will receive maximum mass transfer.

He also has the least chance of relapsing at the moment of hitting.

### *Exercises:*

The hardest part is of course estimating the correct distance.

You may understand that the last photo is very exaggerated, this way one will really fall through the boards, be aware that one has to come back appropriately in short stance with a defense block.

The correct distance that one chooses is therefore of utmost importance.

When one is too far away one will not achieve the goal, the knee will then have to deal with enormous force which can cause injuries.

To find out the correct distance for this yop cha jirugi, one can do this “fall” exercise in front of a wall.

I always take a step when performing my yop cha jirugi, and therefore do not make it from stand.

This allows me to increase more speed and thus mass.

So I will take a very large distance from the wall.

After making my step I still can't hit the wall with a normal yop cha jirugi, only when I drop towards the wall will I hit the wall.

My speed of my kick with the fall movement that my mass produces gives me the ultimate maximum power.

To convince yourself what a small fall movement can do, you can take a plastic breaking board.

Place this board with both ends on an elevation (e.g. 2 stones with the board on top).

Now stand on the board with 1 leg, the board will not break yet.

If you now make a small, well-executed sine wave on the board, the board will break during the downward movement. A good example of the importance sine wave.

## Sokdo - speed

When we perform breaking techniques, we soon find out that speed is the most important factor in performing the technique.

The higher the speed, the more Power is produced.

In the formula we see  $P = 1 / 2M$  times  $V$  squared.

Here is:

P: Power sometimes also expressed in Joule.

$\frac{1}{2}$ : is a constant.

M: stands for mass expressed in Newtons.

V: is speed expressed in meters per second, it is squared in the formula.

So e.g.

$P = \frac{1}{2}$  times 20 times 10 squared

$P = 1000$

Now when we double the mass

We get the following outcome:

$P = \frac{1}{2}$  times 40 times 10 squared

$P = 2000$

If we now double the speed and keep the mass the same as in theorem 1, we get the following result:

$P = \frac{1}{2}$  times 20 times 20 squared.

$P = 4000$

So in theory you can see that speed is the most important factor in breaking objects.

You can now also see what speed it takes to break a board, for example.

The formula is  $V$  squared is  $P$ : the mass

Suppose we have to develop a certain power of 100 Joule

The mass we transfer is 20 Newtons.

$V$  squared is then 100:  $20 = 5 \text{ m / s}$

For the correct outcome, we must now take the root here.

So the square root of 5 is  $2.23 \text{ m / s}$

If the board needs twice as much force to break, then 200 Joule

And the mass remains 20 Newton, then we get the following result:

$V$  squared is then 200:  $20 = 10 \text{ m / s}$

The square root of 10 is  $3.16 \text{ m / s}$

Here you see the ratio of required speed when the breaking test becomes harder.

We must also be aware that our body consists of large and small muscles.

The larger and heavier muscles, for example our legs, are therefore also slower.

The smaller and lighter muscles, eg our arms, are therefore faster.

We can assume that we will start with the bigger slower muscles and as our technique progresses we have to add the smaller faster muscles.

This allows us to use the maximum speed of our muscles and we can ensure that our muscles (technique) stop simultaneously and synchronized on the object to be broken.

*Exercise:*

It is very important to know what speed you need to break a board.

Not in order not to give the maximum for a simple breaking test, but to be able to better delve into the material and to learn to understand the material.

This is not easy to explain, but by taking pictures or making film recordings during these exercises, you can see the moment when the board breaks when one does hit the board at full speed.

And what happens when the technique is withdrawn too quickly.

My feeling and theory here is that one (and this is especially applicable to plastic breaking boards) that one keeps the hand or foot, if possible, where it is stopped by the mass of the boards.

At this point, our hand or foot stops moving, but the boards begin to bend.

When we now withdraw our hand or foot, the boards will want to return to their original position during a severe breaking test.

If one tries to give another small speed of movement towards the boards at the point where the hand is stopped by the mass of the boards, and the boards have reached their highest point of bending, the boards will break more easily.

The 2nd "push" movement helps the board to just over its breaking / bending point.

Please note, the hand or foot may not "let go" of the board in any way and the movements must follow each other at an extreme speed.

Therefore, practice on, (for example), only 1 board with not your maximum speed, but feel and notice when the board wants to return to its old position, when you learn to notice this moment, you can also apply this to harder breaking tests.

With wood or stone, this bending limit is of course hardly noticeable.

## Sokdo wa Banung - speed and response

This is perhaps one of the factors of the theory of force which is not directly related to the breaking techniques.

Still, I think our brain's response does contribute to making our breaking techniques perfect. Before we start performing a breaking technique, we should concentrate well.

This allows us to “charge” our body until the right moment to perform the breaking test.

The time between the feeling or thoughts that one wants to start the breaking test and the actual execution should be as short as possible.

The more time there is between the communication between our mind and body, the more there is time for doubt.

### *Exercise:*

It is of course best to practice this yourself when doing break tests.

This is where the tension is highest and will be the most difficult.

You can also let someone else give the signal when you have to make your technique.

Your reaction will then be trained to hear and do this.

You can also, for example, when the TV is on, perform a technique when the image changes or when, for example, that one actor suddenly reappears.

This trains the reaction of seeing and doing.

Exclude all doubts and try to respond immediately when you hear or see the command.

Our brains are then trained by this and can get used to the "from command to do response"

## The training secrets of Taekwon-Do and breaking

Sorian Pikul

Of course, the training secrets of Taekwon-Do are also a requirement to be able to perform good breaking tests.

That is why I would also like to share my vision with regard to breaking techniques with these training secrets.

### 1. Study the theory of force thoroughly.

This of course goes without saying, when one is familiar with the secrets, one can check the techniques to be used whether one is using all these secrets.

It is not always easy to apply all the training secrets at the same time when starting to train the break test. Go through all training secrets 1 by 1 before trying to apply them all at the same time.

Be sure to experiment with each training secret to find out how small changes might affect them. To actually be able to see this properly in the form of a breaking test, one must have breaking boards with a low breaking limit.

### 2. Fully understand the purpose and method of each movement.

The purpose of the movement that we want to make is now to break the object, we can now rely on the method we learned during our basic exercises, Tul or even from step spacing.

Understanding the purpose is the hardest thing there is, how will the material break? What method should I use to break it?

Simply put, wood breaks differently like plastic, and aerated concrete breaks differently like stone.

We will have to use a different method of breaking for each material.

### 3. Bring the movement of the eyes, hands, feet, and breath into a single coordinated action.

So we make sure that all movements are stopped at 1 and the same time.

You can imagine that we do not have to ensure that our front foot touches the ground too quickly when, for example, the impact. This removes our mass and only pushes with our hand. With the bandae dollyo chagi it would of course not be the best method to turn first and then make a crochet kick, but to ensure that this is done simultaneously and in a coordinated way.

It has already been mentioned that one should start with the slower bigger muscles and as the technique progresses the smaller faster muscles should be added.

This allows one to get the maximum speed of each muscle, and they still end at the same time.

With this simultaneous ending of muscle groups one obtains the sum of the maximum generated energy of each muscle group, which is expressed in a powerful and fast technique.

If we look at the fact that our eyes also have to go with our technique at the same time, this can cause problems in view of the breaking technique. After all, we will have to absorb our goal early, and not just the last moment. When we do, our brains don't have enough time to send our weapon to the correct target. It may be the case that when we make a sonkal yop taerigi (knife hand strike), for example, that when we start by first turning the head towards the target that both the head but also the neck and large parts of our back turn in earlier than the final technique.

You can therefore understand that viewing must also be coordinated. It is therefore important that the sequence of the construction of the technique runs quickly and smoothly.

#### **4. Choose the correct attacking instrument for each vital part.**

General Choi Hong Hi has devoted a chapter in his encyclopedia to this.

Here is a clear diagram to see which attacking instrument (weapon) is intended for which vital part. We can design a similar scheme for the break tests.

Yet for everyone is different what he can break.

Also, the material to be broken is not the same all over the world, a spruce wood board from the east can be harder than the boards we use here.

Even the known white breaking boards differ over a different strength, this often depends on how often they have been used, the material used for these boards can also cause a difference. Therefore, it is impossible to develop such a break test schedule. It is wise to use breakage tests sensibly, not to take great risks, and to rely on your gut feeling. You can always seek advice from a more experienced practitioner. Simply put, everyone understands that it is not wise and impossible to split, for example, a poured concrete beam in half with a knife blade. One could consider starting with aerated concrete first, then concrete curb tape and then brick. The structure of your break test is therefore extremely important.

The weapon to be chosen (attacking instrument) depends on the strength of the weapon, given our build of our body but also the preparation and hardening of this weapon.

For example, it may be possible for advanced practitioners to perform the above breaking tests with just a thumb.

In general, it is clear that the smaller the weapon, the easier the object can be broken. After all, it is easier to pierce a balloon with a needle than with a broomstick. This only applies when our body allows it.

A good example is how we should apply our punch.

We use the front 2 knuckles of the index and middle finger for this.

And not just 1 knuckle, perhaps this was chosen to distribute the force over 2 knuckles.

The same applies to the round kick, for this we use our ball of the foot, in my opinion, use should also be made here of the first two “knuckles” of the big toe and the one that follows.

#### **5. Become familiar with the correct angle and distance for attacks and defenses.**

This is also very important in the execution of breaking techniques.

I would like to explain this on the basis of some drawings.

Anyone who has had physics / mathematics knows that the least loss of force is obtained when one hits an object to be broken at an angle of 90 degrees.

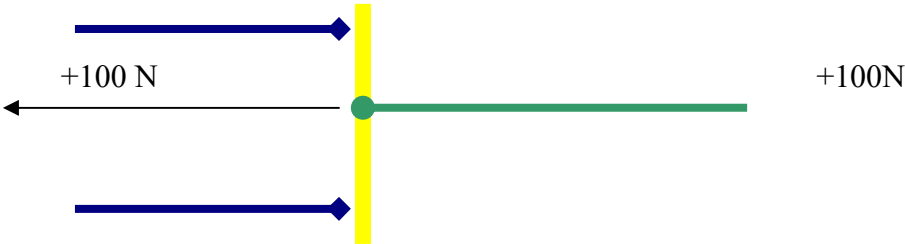
Because of this, there will be no dissipation of forces.

The angle that the technique makes in relation to the material to be broken is responsible for the ultimate force to be transmitted on, for example, the board.

The different angles that our joints make also influence the ultimate strength.

In the first figure we see a simple example of a yellow board placed in a blue container, with a force performed on it shown in the color green expressed in Newtons, in red the loss will be expressed.

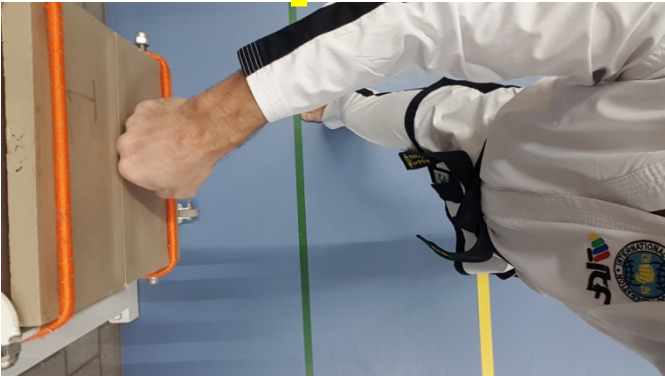
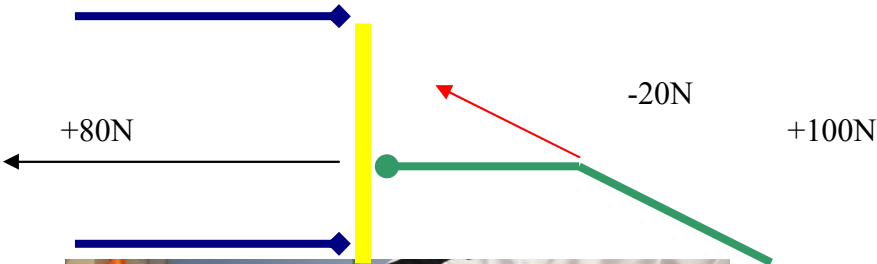
The black vector represents the final remaining estimated force in Newtons.



Side view of right punch.  
No loss on straight punch.

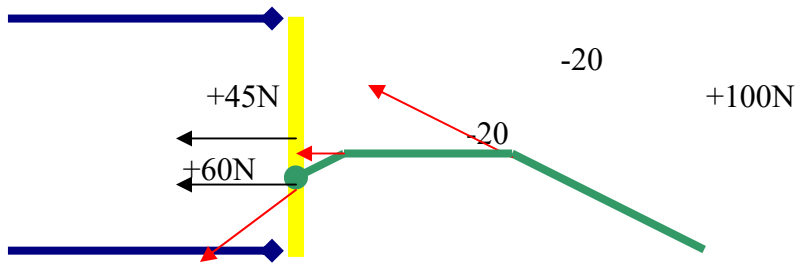
So make sure that the joints are stretched, this does not mean overstretched.  
The difference is clearly noticeable in our knee joints.  
Normally our knees are stretched, when we now extend our legs further (knee hollows backwards) then our knee joints are overstretched.

Loss by bending elbow 20 N





Loss of elbow flexion 20 N plus loss of wrist flexion 20 N only 60 N out of 100 left.



As you can see, a wrong corner punch on a board due to many joints bent in the wrong direction on the board causes a lot of loss.

Also, one punches too low on the board, which is not the right place to hit.

You can see that the final force left in the middle of the board is ultimately only 45N.

So you see that the made technique must arrive at the board at an angle of 90 degrees.

Yet there is one, as our body does not always allow this.

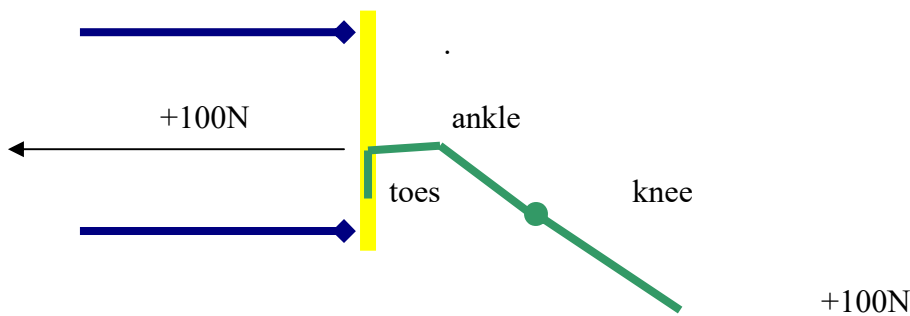
The dollyo chagi (round kick) is a good example of this. (Picture the drawing as a top view of a right circular kick)

To ensure that the ball of the foot hits the goal at an angle of 90 degrees, you will have to stand at an angle of 45 degrees to the board, this means that the ankle is also bent 45 degrees.

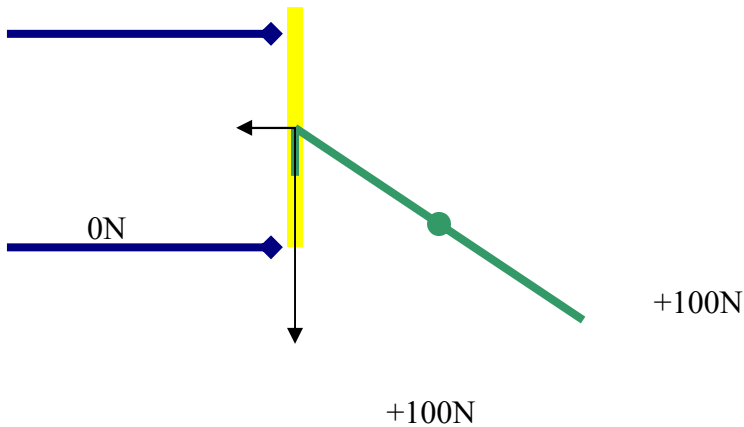
Optimal you will think, yet this means that you have to bend your toes to an angle of 90 degrees, this is not possible for many of us.

Optimal 90 degree angle of the ball of the foot on the board

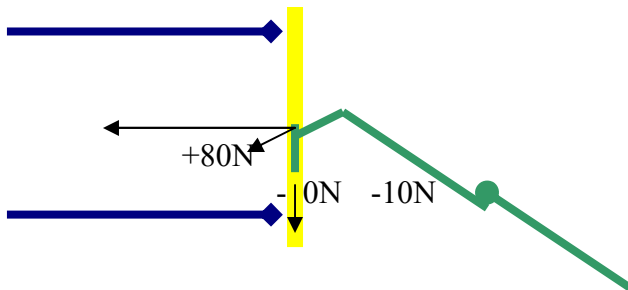
But risk of breaking the toes due to the 90 degree angle of this.



The most optimal option is not possible with toes that cannot reach an angle of 90 degrees.



By bending the ankle joint too far, one will kick in front of the board with no force on the board as a result.



This may not be the best, but certainly the most applicable arrangement of our circular kick on the board.

So you see that there is always loss with bent joints, but that we are not always able to obtain the correct angles given the construction of our body.

Some joints can be made more flexible or stretched, but we are also often bound to the bones in our body that cause these restrictions.

## 6. Keep both arms and legs slightly bent while the movement is in progress.

So you might think that the above secret, given point 5, is not wise to apply, but here we are not talking about the moment our weapon hits the target, but rather between movements.

To make speed it is a requirement that our body is relaxed.

When a human body was totally relaxed, we would fall all the way to the ground, like a person who loses consciousness.

So our arms and legs have to be bent, now you will think we have to bend them.

No, when we start bending our joints we again use wasted power and we are not relaxed.

Actually we do not have to bend our joints but we should be relaxed, this will cause our joints to bend.

Even when a sine wave is going to be made, our body will go down slightly because we relax, and not because we are going down ourselves.

Bending our arms and legs should therefore be a natural thing.

## 7. All moves must begin with a backward movement with a few exceptions.

However, when the movement is in motion, it should not be stopped until the goal is reached.

This is performed for the preparation of our technique.

We can of course also make the technology directly from any state of the art.

Yet we do not use the optimal movement that we are allowed to make, for example during competitions.

You can simply imagine that when we want to make the twimyo nomo yop cha jirugi (long jump with side kick) with the special techniques, we have to take a long run to fly over a distance of 2.4 meters.

Everyone understands that this would not work without a run-up.

Also with this “special technique” we have to break a board and it is logical that we achieve a greater speed with a greater run-up and that we can break the board more easily.

But... you will also understand that the greater the speed we achieve, the more difficult it will be to break the board in this flying technique right in the middle.

This also applies a bit, for example with the bandae dollyo chagi (opposite round kick)

In competition form you have to start from a niunja so palmok daebi makgi (short position defensive block fist).



We can turn directly from this position towards the board and eventually break the board.

So we do not use our optimal freedom of movement. From this short position we can first turn our body as far as possible in the opposite direction and thus “turn up” for the final kick.

So in the end we will be able to make more speed, have had more time to relax, and absorb the goal,

which is already difficult with this technique than with the other competition techniques.

Be aware that the backward motion can increase the speed to such an extent that it will be more difficult to target the precise center of the board.

Make sure that one first trains oneself to hit the precise target then haphazardly kick or punch, hit, etc. as hard and fast as possible.

The 2nd line of secret number 7 is as follows:

However, when the movement is in motion, it should not be stopped until the goal is reached.

Still, as I describe above, it may be important for your breaking test that the technique stops very briefly, I am only talking about the turning kick.

Only when it is thought that it may be important for the breaking test, can it be considered to briefly interrupt the technique in order to better absorb the target.



In my opinion, as I have already described above, I prefer precision over speed, or "powerful pedaling"

One can be the fastest and most powerful man or woman in the world seen breaking tests, if one misses the precise this speed is worthless.

At a high level one sometimes has to take some risks with regard to the exactness in heavy breaking tests on, for example, an E.K or W.K and “hope” that with this sublime speed and power you can also kick exactly on the middle.

This then manifests itself in a perfect breaking technique.

## **8. Create a sinus motion during the movement by properly bending the knee.**

I have also described this secret under Mass. It is clearly stated here that we should use our knees to make this sine wave. (Sine wave)

As I mentioned before, the body should be relaxed when we prepare the technique. When we are relaxed our knees will bend “automatically”.

As General Choi Hong Hi stated in his Encyclopedia, the knees should be bent about 30 degrees. Very important is the correct course of the sine movement, it deviates from the normal sine movement as we know it from mathematics.

It is now very important that we bring our body to the highest point just before the technique is used. As a result, our body weight will certainly contribute to the strength of the technique because we fall into the technique at the moment of hitting with our mass.



## **9. Exhale briefly at the moment of each stroke except for connected movements.**

This, too, has been discussed earlier under the theory of force in breathing.

It is clearly stated here that we should exhale briefly at the moment of hitting.

In my opinion it is also the intention that we use as long as possible and as much oxygen as possible. Try doing a break test if you have taken a deep breath beforehand. You will find that this is nowhere near as effective as when our lungs are filled with oxygen while performing the technique. You also notice that when the lungs are filled with oxygen and we exhale strongly and briefly at the moment of impact, many muscles of our trunk contract. This will make it easier to transfer the developed energy of the technique to the material to be broken. And it will be easier to absorb the “recoil”. One should also place the heel of the back foot firmly on the ground at the moment of hitting.