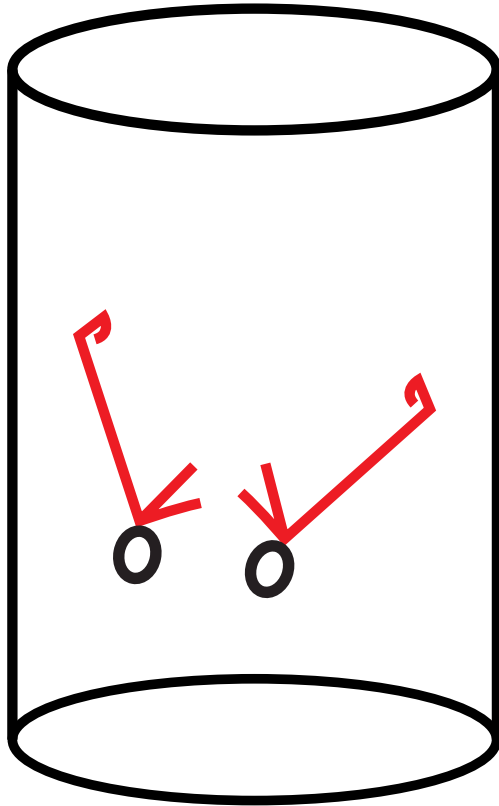


Basic Tunnel flying



Hi and welcome to a little book about flying!

This course is aimed at teaching you what you need to know to become stable in the tunnel, and to start moving around in a controlled manner on your own.

There are two basic flying positions in the tunnel: flying on your belly and flying on your back.



We will look at flying on our belly first, but before that, we need to enter into the tunnel.

Entering the tunnel

Your instructor will help you enter the tunnel for the first time. So please follow his/her instructions.

When you have entered the tunnel a couple of times, it is time for you to enter on your own. Remember that when entering the tunnel it is not necessary to jump. You should just lean into the wind (arch), while balancing and controlling the situation as much as possible, and slowly let your feet get off the ground. Try doing this as slowly as you can. What you want to achieve here is controlling the situation so that you get stable as soon as possible after entering the tunnel.

Remember that if you fly towards the glass on the other side of the tunnel, just stretch your arms out and you will counteract the forward motion, and it's also good to use your hands to stop your head from hitting the glass!

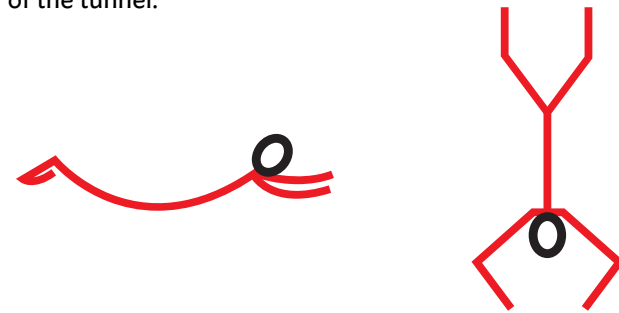
Body positioning: Bellyflying

Now that we have entered the tunnel we need to find a stable position on our belly. And to do this we need to arch. When we arch in the tunnel, we bend our bodies

into an arc, by pushing our hip forward. This creates a lowered center point around the hip, and makes this part want to stay as the lowest point of our body, kind of like a keel on a sailboat.

Our arms we want to hold next to our head, more or less (you should be able to move your arms around, and not try to keep them in one locked position all the time) in a 90° angle. Try to relax your arms as much as you can, it is very common to be quite tense in the tunnel in the beginning, and so the more you can relax, the better it is.

Our legs should not be fully stretched out, and neither fully bent in. But they should be somewhere in the middle, maybe 110° or so. Don't focus too much on the exact position here. Where you have your arms and legs are relative to each other. So if you move your legs, you might have to move your arms to be able to remain in the center of the tunnel.



Moving around in the tunnel on the belly

While trying to move around in the different ways in the tunnel it is a good advice to try doing these different moves with slow and small movements, preferably one at a time.

If we only move one part at a time, with slow and controlled movements, your brain will have a better chance of connecting this one movement to the effect it creates, this will over time create what we call muscle memory, and the next time you make the move, you only think, for example; I want to go forward, and your body will react by with stretching your legs slightly more out, or by taking your arms in, or by a combination of both.

So try making your adjustments small and controlled.

Moving up and down

The first way you will learn to go up or down in the tunnel is usually by lowering your head. Which will make you fly higher up in the tunnel, and when you lift your head you will go down.

What creates lift in the tunnel is the amount of surface area you present towards the wind. So the more you stretch out in the tunnel the higher you will go, and the smaller you make yourself the lower you will go. So when you arch more and take your arms and legs in you will fly lower in the tunnel.

Be careful not to fly too high in the tunnel in the beginning, the higher you fly the higher you can fall. So it is a good safety precaution to stay low in the tunnel until you are more stable and secure about your own flying.

Moving forwards and backwards

Flying forward and backward is a movement we create with our arms and legs.

If we want to go forward we stretch our legs a little bit more out and this will make us move forward. And if we want to move backwards we stretch our arms a little further out.

If we don't compensate with the rest of our body, either by arching more or by taking our arms or legs a little further in depending on the desired direction, we will also go a little up in the tunnel. So try moving forward and backward and at the same time keep the same level in the tunnel.

Practice makes perfect :)

Turning

If we want to turn, or do a 360° in the tunnel, we first learn this by the use of our arms.

If we push one elbow down, and lift the other elbow higher this will turn us in the direction of the lower arm, and vice versa.

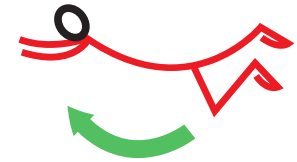


Here it is important to remember to try and keep the body straight, we don't want to be bending our spine to the side, this does not help in turning it only creates a more unsymmetrical position that will be more difficult to control.

When we want to stop the turn we counteract by turning the other way slightly.

Again remember to try doing this and staying at the same level throughout the turn.

We can also make a turn with our legs, with the help of the inside of our thigh. If we lower one knee and have it slightly out to the side the wind will push on the inside of your thigh and turn you around by the use of our leg.



This is a more powerful turn, so be careful not to over do it in the beginning.

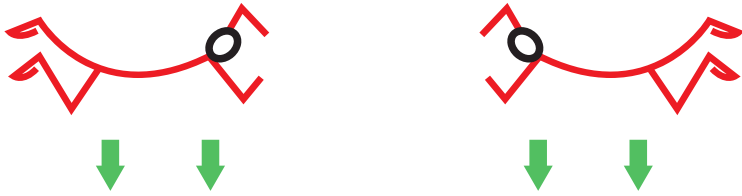
When we are turning with our arms we are turning our upper body around our lower, and vice versa if we are turning with our legs. So we can here imagine that we have a front wing to turn with, and a back wing. These two can be combined and we can do a turn by the use of both our arms and our legs, we now turn around the center of our body.

This is a very powerful turn so be careful.

Sidesliding

If we want to move sideways in the tunnel we do this by combining the two "wings" we talked about in the section before.

So if we now turn by the use of our arms combined with our legs, but instead of using the opposite leg we use the arm and the leg on the same side, we will be moving to the side.



Another way to do this move is by “pushing” (stretch your arm and leg out to the side, angled slightly upwards) on the wind with the arm and leg that is on the opposite side of the direction you want to go.

Transitions

Transitioning in the tunnel means to change from one position of flying to another one. So the transition is the part in between the two different flying positions.

Barrel roll

In a barrel roll, you roll your body around from belly to back, or the other way, back to belly.

Barrel roll: Belly2Back

Do this move with an instructor with you the first few times. For two reasons, one you will end up on your back after doing the move, so it is best to know how to fly on your back, and second you will most likely fly forward towards the glass and the instructor will stop you from hitting the glass.

You want to initiate this move by the use of your arm. So if your left shoulder is rolling under your right, then you use the left arm, and vice versa.

First try and fly stable with your arm/hand turned around and in front of you, the inside of your hand should now be facing your face, and be slightly underneath you. Then, to complete the move, you move your arm even further towards the opposite side and let your shoulder “fall” underneath you. You should now roll over on your back.



One thing that can help the control and stability of this move a lot, is keeping your eyes “locked” at one point in front of you, either at the instructor in front of you or just at a point on the glass. This will make you turn around the point that you are looking at.

Barrel roll: Back2Belly

When you want to make the same move but turning from your back to your belly, you initiate the move with your leg instead of with your arm.

So now we want to move one leg under the other. So if you are rolling to the right you use your right leg under your left, and vice versa. You can try flying while having one leg slightly under the other at first, then when you are stable in this position you slowly push the leg further to the other side and let your hip roll around. Now the rest of your body will naturally follow.



Again try doing this while looking at one certain point in front of you, this will help greatly in controlling the barrel roll.

Body positioning: Backflying

Now that we have rolled around to our back (and learned how to get back to our belly), we can focus on positioning our body in the back flying position.

While flying on our back we want to have our legs up in a 90° position from our hips, and also a 90° with our knees. Have a look at the drawing if it’s unclear. But like I said before, these are not “locked” positions, you want to be able to move your body depending on how you want to fly in the tunnel, and not fixate on holding your legs at this angle all the time.

Your arms should be on each side of your head, kind of like stretching your arms over your head, but not all the way out. Around 90° is good here as well. You want the inside of your hands to be facing up in the tunnel. You should not be holding your arms to your side with the inside of your hands facing down, kind of like when we use our arms to push our selves up from lying on the ground.

The head should be leaning back into the wind, but this is an unnatural thing to do for us in the beginning. The natural reaction when flying on our back in a tunnel is to lift our heads as high as we can. This is very tiring for our necks and not very efficient for our flying. So we should try to focus on leaning our heads backwards into the wind. When we look to the side we should be looking under our arms and not over.



Another thing worth thinking about while flying on our back is how we look at other flyers. When someone is behind you, you should be leaning your head all the way back and look backwards at the other flyer. This feels difficult in the beginning, but as you do it more and more it becomes more natural to you. Looking at the other flyer in the tunnel as much as possible is very important while flying in the tunnel. Looking at your own body while flying this position is probably the least helpful thing you can do, so try looking at your instructor as much as possible while in the tunnel.

Moving around in the tunnel on the back

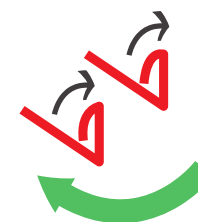
Remember, slow, small, and one movement at a time is usually better.

Turning

In this position we would like to begin by explaining how to turn, this is because when people start flying on the back it is very common to spin around uncontrolled. So if we first learn to turn we can control and stop this spinning.

There are several ways to turn when flying on the back, but let's focus on one of the ways.

And one way is by simply turning our feet. So we turn both heels in the direction we want to turn, and our toes in the other direction. So we turn our feet. Simple :)



Moving forwards and backwards

To move forward (towards the head) while flying on our back we do the same as when we are flying on our belly. We stretch our legs a little further out and our arms a little further in, and vice versa for moving backward.



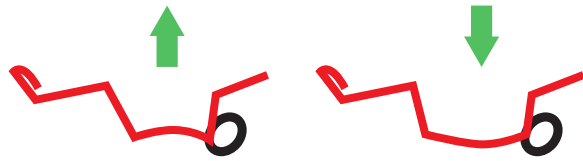
Like on the belly if we don't compensate with the rest of our body we will also go a little up in the tunnel. So try moving forward and backward and at the same time keep the same level in the tunnel.

It seems to be more common to have problems flying backward than flying forward, so when trying to fly towards your legs you must really stretch your arms out, and maybe even take your legs more in towards your body.

Moving up and down

Moving up and down in the tunnel while flying on your back is usually taught by the use of your chest. With your chest you can either "open up" or you can "cup", this means that we are bending our spine, and moving our shoulder blades.

If we want to create lift we "open up" our chest, we push our chest upwards. This creates a shape on your back that gives much more lift than when our chest is "cupped", or our chest is pushed inwards/downwards. Which then means that if we want to go down while flying on our back, we "cup" our chest.



Like we said earlier, it is the total surface area (and our weight) that determine if we are going up or down in the tunnel. Which means that if we stretch out our arms and/or our legs we will also increase the lift.

Side-sliding

To go sideways on the back we, like on the belly, we need to combine turning with both the arms and the legs.

So if we by turning our feet are turning with our legs, then to turn with our arms we take our hand, on the side we want to side-slide towards, and hold it over our chest with our elbow sticking down on our side, and stretch the other arm up to the opposite side.



Another and maybe easier way to think about how to perform this move is by imagining that you “push” on the wind (a little upwards) on the opposite side you want to go, if done the right way this will also make you side-slide.

Exiting the tunnel

So now that we have entered the tunnel and moved around in different ways, we want to get out of the tunnel, either by flying, or by walking.

One thing worth thinking about while exiting the tunnel is that it’s a good thing to try and remain calm and not try to do this in a rushed manner. You can easily miss

your grip on the doorframe and fly straight out into the anti chamber (no air to make you fly here), or get the grip and stretch your legs out which will make the rest of your body go up, and now your upside down holding the doorframe :)

Also remember that stretching your arms towards the door will create the opposite effect of what you want, you will fly away from the door if you do this. Instead, fly towards the door until you fly the doorframe into your grip.

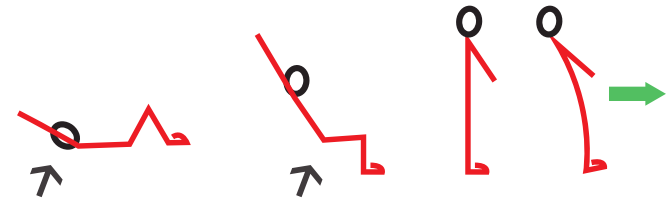
If we are on our back and want to fly out, we can do a barrel roll and fly out.

Getting on your feet from your back

If we want to get up and walk out of the tunnel from our back, we are going to have to use the wind to get onto our feet.

First we “cup” our chest so we sink down to the net.

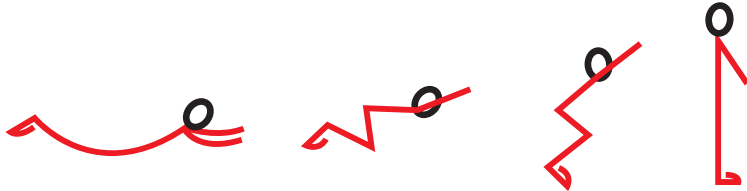
Then we bend our knees so that our feet are on the net. We then “open up” our chest and stretch our arms over our head, so we create lift on our upper body/back. This lift will then lift us up into a sitting position. Remember not to stand up/push your hip forward, while doing this move. If we push our hip forward for extra lift we will start flying quite fast towards the glass. So remember to keep a bent hip all the way until you are in a sitting position, and then stand up.



Getting on your feet from your belly

Getting on our feet from our belly is a little more difficult then from our back. This is cause if we try tacking in our knees/legs while flying on our belly we will start flying backwards.

So it can be helpful to fly a little forward while performing this move. And try staying as low as possible. Fly slowly forward, bring your knees in, and put your feet on the net. Again stay as low as possible, and avoid standing up while performing the move, as this will just send you backwards. Try this move together with an instructor.

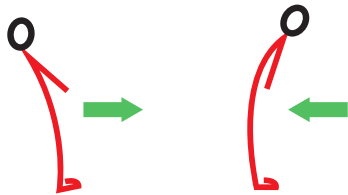


Walking out of the tunnel

Now that we have gotten up on our feet, we want to walk out of the tunnel.

Walking in the tunnel is very different from walking outside of the tunnel. If we lean forward in the tunnel the wind will push us back. So to walk forward in the tunnel we want to do the opposite, we lean backwards. The wind will now push us forward, and with small steps we walk forward, with the help of the wind pushing us on our backs.

Walking backwards then means that we need to lean forward.



Do this move slowly in the beginning, and increase the speed as you get more and more control over the move.

A couple of things that might be worth mentioning

Breathing and relaxing

Trying to relax in the tunnel is a very helpful thing to do. If your muscles are tens, or you are “fighting” with the wind, you will not create the same smoothness and stability in your flying. So it’s good now and then to remember to take deep breaths while flying so your muscles don’t tens up.

Body parts torso, legs and arms

One thing that is worth mentioning is the importance of your body parts. You may find that you work a lot with your arms while flying but the most important body part while flying is your torso. Try moving your chest in and out/up or down to see the powerful effect this has. Moving your hips also has a strong effect on flying, but be careful as this can give you a lot of forward drive and might make you fly hard into the wall.

Tunnel FreeFly Basics

The two basic positions you first learn in the tunnel are bellyflying, and backflying.

Here in this explanation of freeflying, we will take things a step further and change these positions into freeflying positions.

Further this section will be focusing on the dynamic part of freeflying, and not the static part of freeflying. Which means that we are flying in circles, we are moving all the time, and not “holding” still like in Static Freeflying. We will be learning by the use of low speeds in the beginning, while gradually increasing the speed, and the “verticality” of the positions.

So in short, dynamic freeflying at lowspeeds.

FreeFly positions

Head up inface;

- Head up inface, means what it says, your head is up, and your face is looking into the tunnel, while carving (turning in a circle).



Head up outface;

- In this position we are flying with our head up, but now facing out from the tunnel, while carving.



Head down inface;

- Now we fly with our head down, and our face is looking into the tunnel, and we are carving.



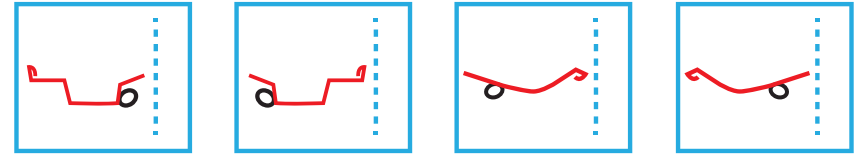
Head down outface:

- And again head down, but this time facing out of the tunnel, while carving.

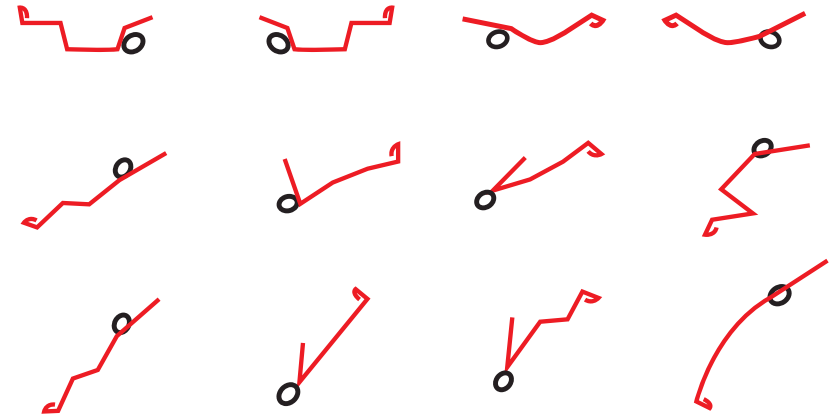


Explanation of the gradual change

While learning these positions on lower speeds, we are flying the basic positions (belly and back) in the beginning. So backflying with your head close to the wall is the same as head up inface, and backflying with your head in the centre of the tunnel is head down inface. And bellyflying with your head in the centre of the tunnel, is the same as head down outface, and bellyflying with your head facing out of the tunnel is the same as head up outface.



As we get more and more control over flying these positions we can start working on making them more vertical, by the use of body positioning, and wind.



Carving

All of the movements we are doing, we are doing while turning, or flying in a circle in the tunnel. This is done by the use of our shoulders. Our bodies are creating forward drive in these positions, and to avoid just flying straight thru the tunnel and across to the other side, we slightly move one shoulder further forward then the other, depending on the desired direction. This creates a turn while driving forward, and with our shoulders we must adjust this turn to fit the tunnel so we don't just spiral in the center, or hit the glass/wall. By flying forward while turning, we achieve the desired effect, and we start carving.



Working on “lifting” the basic positions

Flying in a circular movement creates lift, kind of like a propeller on a helicopter creates lift. But the way we shape our body in the wind will also help us create lift, on the parts of the body, that we want to create lift on, depending on the freely position we are working on.

Here I will try and explain the different parts of the body that should be adjusted to create a more vertical flying position.

Head up inface

While flying on our back with our head close to the glass/wall, facing into the tunnel (and carving), we want to make our head go higher and our feet to stay low.

This effect we create by the use of our upper body.

With the largest body part (which has the largest surface area and for that reason will create the most lift), our chest, we try to “open up”, this means that we are leaning back and pushing our chest as “open” (up) as possible.

And our arms we stretch back (back cause we are lying on our back, up in relation to the body, so up over our head) so that they create a surface area as large as possible, and in that way help us lift up the upper body as much as possible.

The same goes for our head, we lean our head backwards, and not upwards like we would outside of the tunnel if we wanted to get up.

We should now have created the maximum surface area for our upper body, and by that managed to lift our upper body as much as possible (ironically enough by leaning backwards as much as possible).

Remember all this is while turning around in a circle, or carving as we say.



Head up outface

Now we are flying on our belly with our head towards the glass/wall, facing out of the tunnel (and carving).

We again want to lift our upper body, and keep our legs low.

This we do by maximizing the surface area on our upper body. We stretch our arms forward (up in relation to our body) towards the glass/wall, and with our chest we cup, this is the opposite of opening up our chest like we do in head up inface, we push our chest inwards and our heads forward and in that way make our upper body lift more then our lower body.

To be able to stay upright in this position we need to get our legs (shins) in under our upper body. This we do by bringing our knees in, and keeping our shins flat, very important that our shins are flat towards the wind, if our feet come up so our shins aren't flat it becomes a very difficult position to fly.



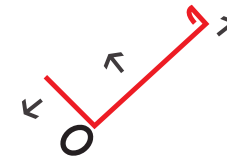
Head down inface

So in this position we are backflying with our head in the centre of the tunnel facing into the center of the tunnel.

We now want to lift our lower body higher then our upper body.

To do this we must create lift by the use of our hip, and our legs.

Our hip is pushed upwards, kind of like standing up from a sitting position. And our legs are more stretched to create a bigger surface area. Remember that here the goal is to get straight/flat, and not to over bend your body into the shape of a banana.



Head down outface

In this position we are flying on our belly with our heads in the center of the tunnel, and facing/looking out of the tunnel. We now want to create lift on our lower body part.

From our belly we take our arms in on the side. The hip is bent, or we could say our butt is sticking out, kind of like sitting down from a standing position, and our shins are catching air. (Later we stretch out our body, which creates more speed. But at first we learn this position with a bent hip, cause it is easier.) And then we take our head down a little and look to the side.

This position is a difficult position to learn so you might want to get good at controlling the turn before lowering your head and facing out of the tunnel.

When you lower your head, you will want to do it gradually and slowly, slow and controlled is better than radical and out of control :)

And a good tip is to remember to try as much as possible to be looking in the direction you are going in, so keep trying to see across your shoulder by turning your head to the side. If we could turn our heads like the owl, we would. That also goes for flying like the owl :)

Transitions2

Layouts (over the feet)

In a layout over the feet, you fly your upper body over your lower body, either from belly to back, or vice versa.

This move is achieved by creating more lift on the upper body than the lower (but this time without a turn, we are not carving any more, but flying straight up in the tunnel, and then back down on the other side).

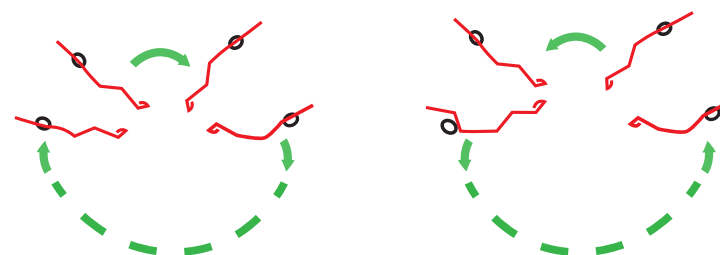
From back to belly the move is similar to head up in face, we “open up” our chest, stretch our arms out, and by doing this we create extra lift on the upper body, so we are flying upwards. As we come up we want to make our feet come in underneath us, and when we now fly over on our belly we want to catch the wind with our upper body, so keep your arms stretched so they catch the wind while you come back down on our belly.

From belly to back, the move is similar to head up out face, we “cup” our chest, and stretch our arms out. We will now get more lift on the upper body and start flying up. Again, as we fly up we will want our feet to come in under us, preferably as controlled and calm as possible. Remember to catch the wind while coming over on your back, this is something that people usually find a little difficult in the beginning, falling over backwards isn't the most comfortable feeling. But if you try

remembering to look backwards and out through the glass behind you (lean your head back), this can help maintaining your body position so that you don't fall down on the net. You can also think about opening up your chest as you come over on your back.

One thing that can help in this transition is to use your legs for lift while changing from air on the back to air on the belly, or vice versa. This you do by taking your legs out to the side and using your shins to get lift.

One thing that can help in this transition is to use your legs for lift while changing from air on the back to air on the belly, or vice versa. This you do by taking your legs out to the side and using your shins to get lift.



This is a move that takes some practice, and the more you do it, the smoother and more controlled it will become. You want to be flying your upper body over your lower body, and not kicking/throwing your lower body (feet) under your upper. You should be using the wind as much as possible to create the move.

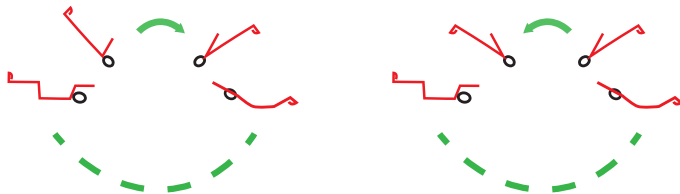
For the positioning in the tunnel, you should be going over from one side of the tunnel to the other. From back to belly you go up and forward, and from belly to back you go up and backward. When you later learn layout over your head, these two moves can be combined and we are now flying in a vertical circle in the tunnel.

Layouts (over the head)

In a layout over the feet, you fly your lower body over your upper body/over your head, either from belly to back (front layout), or vice versa (back layout).

This move is done by stretching out our legs and creating lift on the legs. The legs will now start going higher up than your head, if we now maintain this lift on our

legs and try to point our head down towards the net, the body should fly over your head and you should end up on you back or belly, depending from where you started.



This is a difficult move to learn, it takes practice, so it is strongly recommended to try this move in the beginning together with an instructor.

What is important to remember not to do while doing this move, is to do the move like a front flip or a back flip like people do outside the tunnel.

In a front flip/back flip we throw the upper body around the lower, and in a layout we fly the lower body over the upper. There is a big difference in doing these two moves in these two different ways, and using the wind to your benefit makes the move much nicer and easier for you.

There are many little things that could be said about these two moves, but mentioning every little detail here I think would be over load. I can mention the two most common problems. One is keep your arms forward (from body) in the back layout, this is so the move slows down, and also so you don't hit the glass. Another is to keep your body straight while doing the back layout, and don't bend too much so you look like a banana, straight gives you better lift.

Thank you!

Well that's it for the basics. I would like to thank you for your time! And I hope you got something out of reading thru my explanation.

If you have any feedback, good or bad, please let me know so I can make improvements to my explanations. Also if you have any questions, or just want coaching please don't hesitate to ask at mailbknutsen@gmail.com.