



FAQ Nordic Inline Skating

Nordic inline skating is a new sport. . Nordic inline skating combines modern inline skating with traditional cross country skiing. It's a healthy full body workout. About 90% of the upper and lower body and the cardio vascular system get trained when skating nordic. We receive several questions on a daily basis from our customers, but also from skaters around the globe concerning nordic inline skating. Here you will find answers to the most frequently asked questions that we have received. Do not hesitate to contact our well trained staff if you have any further questions. We will be pleased to help you.

GENERAL INFORMATION

Can I use the Powerslide Nordic Skates for my Summer Cross Country Ski Training?

First of all we want to say that the Powerslide nordic skates can be used by any interested skater.

Powerslide nordic skates have been developed for off road skating 365 days a year. You can even skate with your Powerslide nordic skates in the winter in the snow under certain circumstances.

The *Nordic Trainer* and *Cross Trainer* skate have several advantages compared to regular rollski. You can use them off road. The skating technique is quite similar to the free style / skating style cross country skiing technique and therefore recommended for the summer training of cross country skier.

Which are the Target Groups of Nordic Off Road Skating?

The following list of target groups for nordic inline skating might not be complete, but shows the variety of people that could be attracted for this new sport:

- Young active people
- Nordic walkers
- Inline skaters
- Nordic cross country skiers
- People who want to lose weight but having some fun
- Cyclists, triathletes, Joggers
- Students
- Fitness studios
- And much more

Where can I go Nordic Inline Skating?

Don't worry about damaged streets / foot paths or gravel roads if you skate with the Powerslide nordic off road skates. The air tires of the skates take you (almost) everywhere! The softer the ground the more the workout. It's just that simple. You will have problems skating on a sandy beach, really heavy gravel roads or very steep ascents. The best is to start slowly and step by step increase the level of difficulty to find your own level of nordic skating.



Another cool thing about nordic inline skating. You can do it at all weather conditions. The grip of the tires on wet surfaces is still ok for skating, but sure there are always limits. Take your nordic skates and go skating during your holiays, on a business trip, for your daily workout or just for fun.

We recommend to go to a skate school to learn the special skating techniques of nordic inline skating. More and more skate schools offer nordic skating classes.

Which Powerslide nordic skate is the best for me?

Skaters who look for a comfortable skate will be happy with the *Nordic Trainer* skate. The boot itself has a snug fitting last, is anatomically padded - especially in the ankle area - and has a nice wrap. Sportive skaters and cross country skiers will prefer the *Cross Trainer* skate with the clap braket. The tight sportive last and the carbon/fiberglass shell transfer the energy of each stroke 1: 1 to the ground. Both frames feature a 6061 aluminium frame, 6 ¼" air tires and 100% rustproof bearings.

Are the Powerslide Nordic Skates admissible for road traffic?

Skates which are equipped with a brake system on each side of the skate are admisible for the use in the traffic. The Powerslide nordic skates will be delivered with just one brake system (Nordic Trainer skate) or even without brake system (Cross Trainer skate). The skater has the option to purchase the brake add on kit to get the admission for the traffic. BUT we prefer to skate off road where no traffic admission is needed.

Which kind of Equipment is recommended for Nordic Inline Skating?

Skates and poles are the basic equipmment you need to start. Questions concerning the correct length of the poles will be answered later on.

Besides the skates and poles we recommend you use full protection. Skating is a dangerous sport – especially skating off road. Always wear full protection which includes:

- Helmet
- Elbow Pads
- (Nordic) Gloves
- Knee Pads
- Crash Pads if needed (= padded shorts)

You will find a large variety of powerslide protection gear and helmets in the shops.

The clothing for nordic inline skating should be appropriate for outdoor activities and depends on the weather conditions. Functional underwear and outerwear is very popular and can be found in many variations in the shops.

GENERAL INFORMATION ABOUT BOOTS / TECHNOLOGY

The Last



The last is kind of a copy of a foot. The last can have very different shapes depending on the purpose (for example running shoe or speed boot) and target group. The last is important for the fit and performance of the shoe and can make a huge difference.

The last for a race shoe must be moulded very accurate around the ankles, in the achilles area or around the fore foot to make sure the shoe has a snug fit and the power of each stroke can be transferred without a loss of energy. There is no need to spend such effort on the last for fitness skates, because this target group wants a very comfortable skate and the padding inside the shoe construction can balance an inaccurate last.

You must be aware that the last is always a copy of a standard foot and it is impossible to find THE perfect last that fits ALL skaters feet! Knowing this fact and our aim to be able to serve a wide range of skaters lead into the decision to offer 5 different lasts under the Powerslide umbrella (including Core Racing). We are sure that we can offer a performance race shoe for almost every foot! None of our competitors has this kind of variety!

Hollow Tube Technology™



Carbonfiber is a very attractive material for good reasons. New materials can match the combination of aesthetics and performance that is associated with carbonfiber material. At Powerslide we enhance the performance of carbonfiber by making it lighter. The next step in the evolution of the development of Powerslide race shoes is the sandwich construction of carbon shells.

A sandwich construction is a structural panel concept consisting, in its simplest form, of two relatively thin, dense, high strength and parallel sheets of structural material with their faces bonded. The two sheets are separated by a relatively thick, lightweight core such as honeycomb or other structured core.

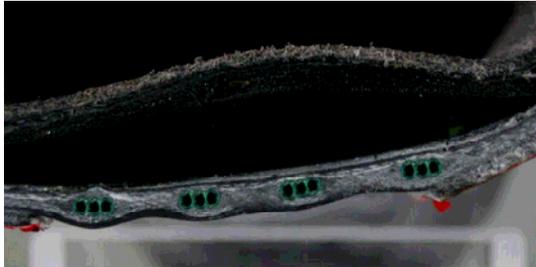
To create stiff and lightweight race boots with a unique look is the basic idea of the sandwich construction.

Powerslide developed two concepts in this matter - the HOLLOW TUBE TECHNOLOGY™. The constructions are unique in the industry.

The fundamental value of hollow constructions is weight reduction. Hollow tubes positioned between the two mounting blocks of the carbon shell are embedded in a carbonfiber matrix. The structured surface of the bottom adds extra strength to the overall shell construction and

enables us to reduce the layup of the carbonfiber matrix. The result is a lighter shell construction.

The Hollow Tube Tedchnology™ can also be combined with our SKELETON CONCEPT™, which has been described in detail before.



Picture: Carbon Shell incl. the Hollow Tube Technology

Skeleton Concept™



Racing shoes featuring the Skelelton Concept have a unique shell construction. From technical standpoint this technology could only be used with composite materials. The shell has been cut out like a “Swiss Cheese”. Cut-outs are strategically placed to reduce weight, improve comfort and fit, which all transcends to greater product performance. One of the advantages of the Skeleton Concept™ is the improved fit – especially in the ankle area where most athletes have problems. Many speedskaters have problems with painfull bone spurs, because of constant pressure of the shell. Boots that feature Skeleton shell construction have a different cut of the shell which reduces the area where the pressure can result in the above mentioned problems. New manufacturing technologies allow us to transfer the Skeleton Concept into carbonfiber technology. In this case we call is Skeleton-C Concept. The „C“ stands for Carbonfibre.

Which size do I need?

Our carbon boots have the same fit as a regular sports shoe. We have made the observation that all of our shoes fit the regular shoe size in most cases. The last of the R-series (boots feat. the composite shell) is slightly wider compared to the carbon boots from Powerslide and Core Racing. All of our lasts seem to fit a lot of skaters from our experience. We call it the “race ready fit”, which means the time to get used to the fit of our racing shoes is extremely short.

Does Powerslide offer full size boots only?

The list below converts European size standard into US standard and Mondo Point. Our production is based on the list.

Europe	USA	Mondo Point (cm)
36	4,0	23,0
37	5,0	23,7
38	6,0	24,4
39	7,0	25,1
40	7,5	25,8
41	8,0	26,5
42	9,0	27,2
43	10,0	27,9
44	11,0	28,6
45	12,0	29,3
46	12,5	30,0
47	13,0	30,7

HEAT MOULDING INSTRUCTIONS

SHMR-Technology



SHMR is also known as **Super Heat Mouldable Resin**. This new technology is used in modern race boots. The shell construction is completely different compared with boots using thermo sheets. We are using a special heat mouldable epoxy that is combining the different layers of carbonfibre. Race boots featuring the SHMR-Technology can be heat moulded at

ANY spot of the shell, because the epoxy that is used everywhere in the shell and between each layer of carbonfibre. Another advantage is that the epoxy can be heat moulded as often as you want without losing its function. The moulding temperature for racing shoes with SHMR-Technology is around 80 degree celsius which is quite low. Another side effect of SHMR is the slight reduction of weight of the shell.

How do I heat mould my skates?

There are two options to heat mould your skates which are described below.

With an industrial dryer

Point the dryer at the ankle region or the region where you have problems. Heat both the inside and outside slowly and thoroughly. Be sure to keep a safe distance from the material to avoid damaging the material by overheating or burning. Check the flex of the material from time to time (be careful, the material will be hot). Put the shoe on and tighten firmly. Get into the skating position and wait until the material has cooled down. You can speed up the cool down process by wrapping some wet towels around the boots or by using ice spray.

In the oven:

Pre-heat the oven around 95 degrees Celsius. Put boot into the middle of the oven away from all heating elements. Check the flex after 10 minutes and then each minute until you have the feeling the shell is flexible enough. Take the boot out of the oven and follow the instructions mentioned above.

Attention

Boots are hot when they come out of the oven! Powerslide recommends to wear socks and gloves when heat moulding synthetic boots. You also might step out of the boot after a very short time to let the material cool down before trying it again. You may have to repeat the procedure to get the correct fit.



Important Notice:

We recommend you adjust the fit of your racing boots in sitting position! But please be sure to get into the correct skating position. NEVER stand with full weight on your boots when adjusting especially if you purchased a pair of shoes featuring the SHMR-Technology™. The mounting block could be moved out of position if the impact is high enough, because the entire shell is heat mouldable. This would influence the boot- frame set up and can cause problems. You must be aware the warranty expires if you did not follow our instructions.

How often can I repeat heat moulding my boots?

You can do it as often as you want with the SHMR technology. Thermo sheets start to get weak after several times. We recommend you heat mould only as often as necessary. It might make sense to think about custom boots if you can not stop the fitting problems even through heat moulding.

THE BRAKE SYSTEM

Which kind of Brake System do Powerslide Nordic skates feature?

The Powerslide nordic skates from 2007 til 2009 feature a cable brake system which is similar to bike brakes. The brake function will be initiated by bending the knee. In 2010 we offer a brand new calf brake system with a much better function now. This new brake works for standard skates, but also for skates incl. the clap bracket. The new brake will be offered as add on kit in the aftermarket through our retail shop network.

General advice:

All skaters – no matter if they skate on or off road – should always skate carefully

- be careful and stay alert
- adapt your speed to your skating skills and the profile of the tracks

I own an old Powerslide Nordic Skate – is it possible to add on the new Calf Brake System?

Yes you can! We offer the brake in the aftermarket through our retail shop network. Skates built in 2008 featuring a one side cable brake system simply add on the new calf brake on the other side of the skates. In this case you have two different brake systems if you like it this way.

You also can disassemble the cable brake if you want to switch completely to the new brake system. Skates build in 2009 are equipped with a cable brake on both – the left and the right skate. You have to disassemble at least one brake before using the new one.

Will a continuous Load influence the Power of the Brake System?

The brake pad will heat up under continuous load when skating a long downhill section caused by the friction with the outer jacket of the air tire or the contact with the PU-wheel, but will NOT get hot. Other braking systems have more problems with overheating. The friction on the outer jacket of the air tire or of the PU material of the skate wheels is not a big deal with the Powerslide calf brake system.

The brake has been tested in the field on very long downhill sections with continuous load at dry and wet conditions. Tests have been arranged with air tires but also with PU-wheels. We had very good results for the brake function and no problems to control the brake power.

Especially the PU-wheels had significantly less signs of abrasion than the competitors model.

Does the new Calf Brake System work for the Powerslide *Roadrunner* PU-Wheels?

Yes it does. You can easily switch between the Kenda Road Star Air tires and the Powerslide *Roadrunner* PU-wheels if you want. The brake works for both. You might need to adjust the brake pad if you switch between the two types of wheels.

Does the new Calf Brake System work under wet Conditions?

Yes it does. Sure the brake function is restricted under wet conditions like all brake systems besides disc brakes do, but you will be still able to control your speed. It also works for both types of wheels – the air tire and the PU-wheels.

What do I do if the Brake Pad is worn off?

The brake pad is attached with one screw to the brake pad holder and can be easy replaced. We offer the kit in the aftermarket as well.

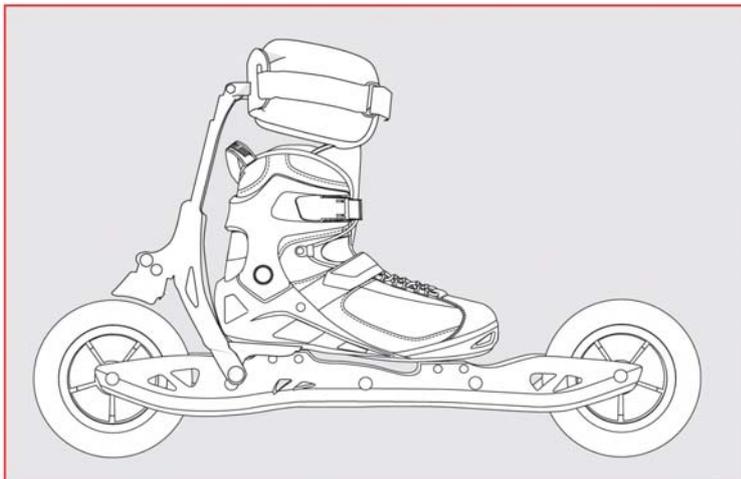
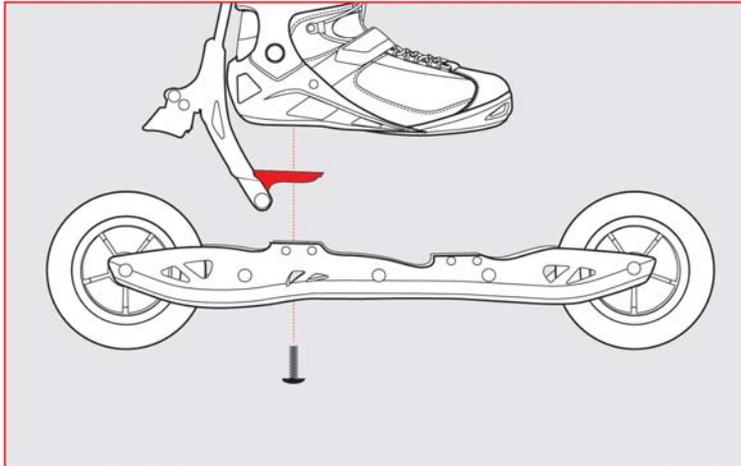
Attention: Check your brake from time to time and make sure the brake pad is not worn off too much. You might damage the head of your fixation bolt which might cause problems in case you want to replace the brake pad.

Do you offer the Nordic Trainer Skate incl. the calf Brake System?

Yes we do. The Nordic Trainer skate is equipped with one calf brake system only which is installed on the right side skate like its done on regular fitness skates as well. You can easily add on a second brake system to your left side skate if required or you can change the brake from your right skate to the left one if you prefer.

How should I assemble the Calf Brake System to my Nordic Trainer skates?

The add on kit of the calf brake system is pre-assembled and ready to use on your skates. Please proceed as described in the following with the assembly:



1. Release the rear mounting screw of your skate
2. Take out the rear tire if needed (usually not necessary)
3. Place the base of the calf brake system between boot and frame as shown above
4. Tighten the base fixed between boot and frame with the mounting screw again to combine frame, brake and boot to one unit
5. Adjust the brake to your skating style and preferences for optimized brake function

Which Options of Adjustment of the Calf Brake System do I have?

There are several options to adjust the calf brake system for a perfect brake result. These options are like following:

1. Baseplate

You can shift the complete brake system forward and backward through a slot in the baseplate in order to find the perfect position on the frame.

2. Brake Pad Holder

The brake pad holder can be adjusted in height.

3. Brake Pad

The angle of the brake pad can be adjusted especially if its worn off.

4. Cuff Holder

The soft pad holder can be adjusted in height as well

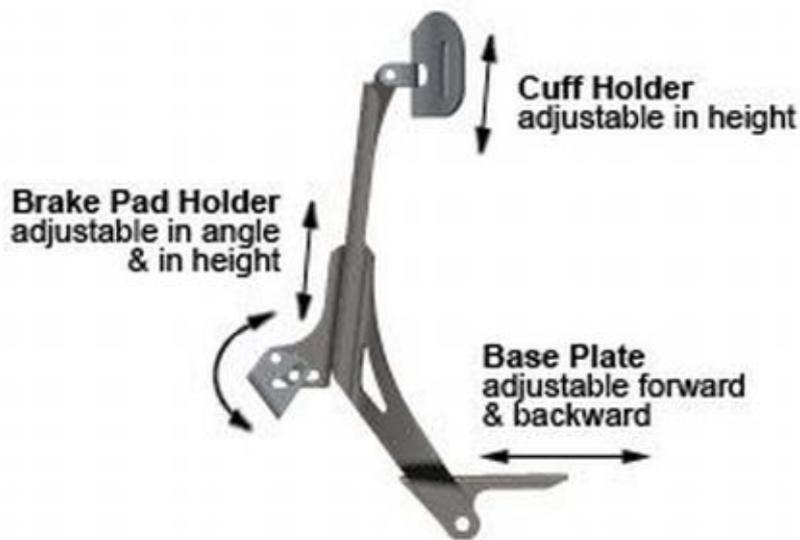


Image: Options to adjust the brake system

Do you offer the Cross Trainer Skate incl. the calf Brake System?

No we do not. But we offer the brake system in the aftermarket through our retail shop network. The brake can be easily assembled as well.

Why don't you offer the Cross Trainer Skate incl. the Calf Brake System?

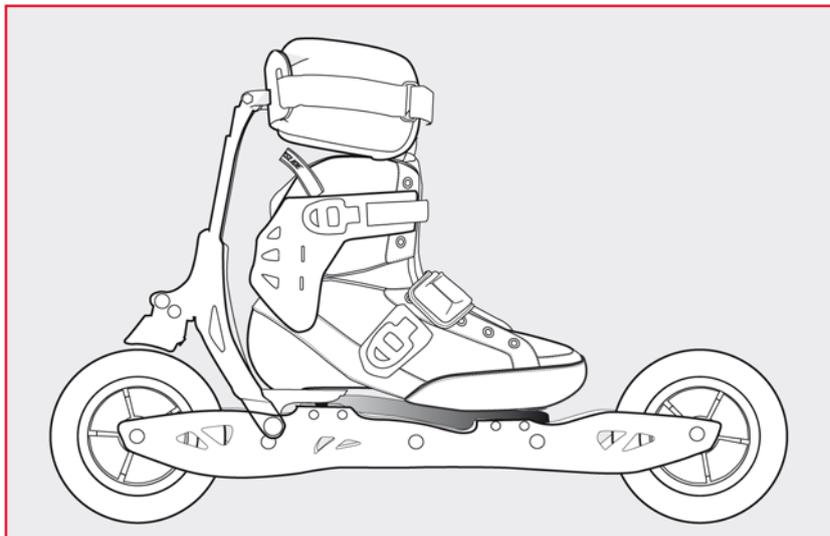
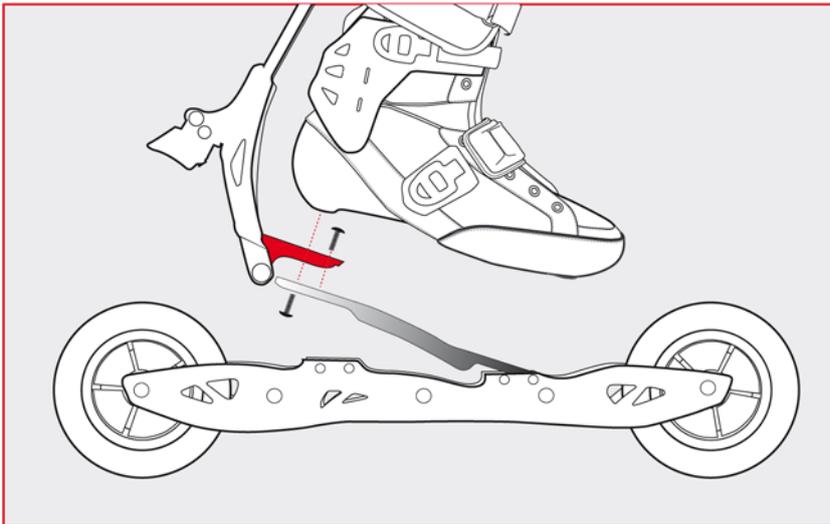
The Cross trainer is best for sportive skater and skater coming from cross country skiing. Speedskates for example also do not have a brake system. Most of the roll ski as well. So we followed the same strategy in this matter.

But - as mentioned before – the brake can be easily assembled if needed.

How do I Assemble the Calf Brake System to my Cross Trainer Skates?

The brake system can be easily installed on the Cross trainer skates as well. In this case you simply place the baseplate between the boot and the clap bracket. The brake will constantly “follow” your leg even when opening the clap.

The add on kit of the calf brake system is pre-assembled ex work and ready to use on your skates. Please proceed as described in the following with the assembly:



1. release the rear mounting screw of your skate
2. place the base of the calf brake system between boot and clap bracket as shown above
3. first fix the base plate and the clap with a screw and antirivet (the screw helps to avoid that the brake shifts on the clap)
4. then tighten the base fixed between boot and frame with the mounting screw again to combine clap bracket brake and boot to one unit
5. adjust the brake to your skating style and preferences for optimized brake function

Attention

The width of the clap bracket is slimmer than the width of the frame itself. The baseplate of the brake system is based on the width of the frame. You have to fix the base to the clap with a second screw in order to avoid that the brake moves sideways during skating. The result would be that the brake pad doesn't meet the tire in the correct position and the brake function would be limited.

THE FRAME

What is the Mounting Distance of the *Nordic Trail* Frame?

The Nordic trail frame has a mounting distance of 165mm which is a well known standard in fitness and speed skating. Several fitness or even speedskates could be combined with the frame if the skater prefers. The frame incl. pre-assembled air tires is available in the aftermarket through our retail shop network.

Do you offer different length of Frames?

Yes we do. The Nordic Trail frame which is used for the Nordic Trainer and the Cross Trainer skates is offered in 3 different sizes as following:

Size S for shoe size 36 EU up to 38 EU
Size M for shoe size 39 EU up to 41 EU
Size L for shoe size 42 EU and above

I own a high cut Marathon Speedskate. Is it possible to use it on a Powerslide Nordic Frame?

Powerslide offers the Nordic Trail frame in the aftermarket as mentioned before. Several marathon speedboots can be combined with the frame. Check that the mounting distance of your boot matches with the 165mm mounting distance of the frame and make sure to select the correct frame length fitting your shoe size. See information above.

Which is the max. Torque to fix the Axles on the Frames

Tighten the axles sturdy. We recommend a max. torque of 5-6 Nm.

Axles used for the fixation of the air tires incl. the one way bearings should be tightened with a max. torque of 30-40 Nm!

THE CLAP BRAKET

How to assemble the Clap Braket to my Powerslide Nordic Skates?

Tools you need for assembly are:

1x philipps head screwdriver
2x hex key

Working Steps:

1. Release the front and rear axles which are positioned under the two mounting blocks
2. Place the black cone on the rear mounting block as shown and place the clap bracket on top to find the correct fixation point of the cone on the clap bracket



1. place cone on the rear mounting block



2. place clap on top of cone



3. fix cone on the clap braket with philipps head screwdriver

3. Fix the boot on the clap bracket. The boot should be mounted centered on the clap. The boot can be adjusted front to back, but also sideways depending on individual preferences.



Picture: boot and cone fixed on the clap bracket

4. Place the spring on the spacer featuring the two recessed rings. Then place the axle into the frame under the rear mounting block and fix it with the axle.

Short springs will be needed for the assembly of size S and M frames

Long springs will be needed for the assembly of size L frames

Attention: The frame is under tension. Releasing the axle of the rear wheel helps to place the spacer in the frame.



Image: spring incl axle with recessed ring



Image: spring positioned on the axle



Image: bottom view of frame - axle incl. springs positioned under the rear mounting block

5. Now fix the other end of the springs with the help of the metal bolt on the clap bracket. The tension of the springs can be adjusted through the position of the metal bolt in the 3 holes of the bracket



Image: metal bolt



Image: front end of springs fixed on the clap bracket

6. Pull the clap bracket forwards on top of the mounting block until it gets locked in. Then fix the clap bracket with the axle under the front mounting block,



Image: Fully assembled clap bracket

Can I use the Clap Bracket on my Nordic Trainer Skates?

Yes you can. The clap bracket is offered as add on kit in the aftermarket through our retail shop network. The instructions for the assembly of the clap are the same as given above for the Cross Trainer skate.

Are there different Sizes of the Clap Bracket?

The clap is available in one size only and can be used for all shoe sizes. Just the frame as the base for the clap bracket varies.

What is the Mounting Distance of the Clap Bracket?

The clap bracket offers both mounting standards – the 165mm and 195mm distance and therefore can be used for a variety of boots including the Nordic Trainer boot.

THE TIRES / WHEELS

Do you have any specific Information about the Air Tires?

Model:	Original Road Star made by Kanda
Construction of the tire:	fiberglass reinforced nylon rim, tube, rubber jacket incl. off road profile
Valve:	car valve
Size:	6 ¼” or 150mm
Air Pressure:	max. 6,3 bar or 90 psi
Diameter of Axles:	8mm
Weight per Wheel:	371g incl. bearings and spacer

Attention:

Insufficient air pressure in the tires might press the valve towards the outside and could touch the frame when skating. This might damage the valve and in the end the tube might get damaged. Make sure to skate with sufficient air pressure and stop skating if you hear a clicking noise from the valve and inflate the tire again. The min. air pressure should be 4,5 bar for skating.

What´s the optimal Air Pressure for Off Road Skating?

We recommend you fill the tires up to 6,0 or max. 6,3 bar. Heavy skaters should inflate the tires up to 7,5 bar. The rolling resistance of the air tire itself is quite high already and you need quite some energy to keep rolling – especially off road. The smaller the air pressure the more energy is necessary to skate.

What kind of Pump do I need for my Air Tires?

The tire is quite small and its not easy to reach the valve. You need a pump with an extension piece (tube) in order to reach the valve. There are several “air pumps“ in the market that are suitable. You can also go to every gas station and use the air pump for your tires.

What to do when the tires are worn off?

Usually the tires start to get worn off on the inside first. Check the profile of your tires from time to time and switch the inside to the outside first.

Usually the front tire will be used more than the rear tire. So you can also switch wheels front and rear.

When the tire has been worn off all over you should exchange them with new ones in order to avoid stones or other sharp pieces damaging the tube.



You might be able to keep the bearings and for sure the spacer. You simply press the bearings out of the rim with your hex tool.

How long or how many kilometers can I skate on my Air Tires?

This is a very difficult question cause the wear of a tire depends on many factors such as the intensity of skating, the skating style or how often you need to brake, the surfaces you skate like asphalt or sandy tracks in the forest etc.

It's the same like riding a mountain bike or driving a car. You won't get a standard answer for this question.

You can say in general: Wheels get used more on asphalt roads than in the forest.

Can I get Air Tires only in the Aftermarket?

Yes you can. Powerslide offers the complete tire but also the tube and outer jacket separately through their retailer network for the aftermarket.

What to do in case of a flat tire?

Especially off road skating can cause stress for the tires, but sure you can get a flat tire also while skating on regular streets. Be prepared and always carry a complete and inflated air tire with you. Worst case scenario is to be somewhere in the middle of nowhere and you need to walk home barefoot or on socks cause of a flat tire. So better have your hip bag or daypack with you if you are on a longer ride and carry some tools, a spare tire and something to drink. A mobile phone and some pocket money is also quite helpful if you skate alone. Just in case.

Later at home you can repair the flat tire like you would do with your bike tubes.

How do I replace a Tube?

Please proceed as follows if you want need to replace the tube.

Take a long axle bolt and guide it through the rim including the bearings. Fix the axle bolt incl. the tire in a vice. This helps to have two free hands to work on the tire now. Take two screwdrivers which have been slightly bended at the end and use this lever to remove the outer jacket off the rim. You replace the tube in the next step.

Please Note!

Make sure the valve is correctly placed and not pointing against the running direction!

With the help of the two screwdrivers you lever the outer jacket back to the rim

Tip:

Use some soap for the sidewalls of the outer jacket to make them slide more easy back to the rim.

Is there any specific direction of the valve?

Please pay attention of the direction of the valve of the wheels! The valve should not be pointed against the running direction of the wheel to avoid that the edge of the valve getting ripped off in case the valve hits the frame. Please see the attached pictures which show the correct and incorrect position of the valve. The reference for the running direction is the profile of the tire.



Valve in correct position „in“ the running direction



Valve in incorrect position „against“ the running direction

Do I have to be careful about the Running Direction of the Air Tire?

Yes you should. The “peak” of the profile is pointed towards the running direction of the tire. The wheel should be placed in correct direction for better function.



Image shows the Spinning direction of the tire in the direction of the viewer

My Air Tire doesn't spin round – what do I do?

Check the correct seating of the outer jacket on the rim. There is a line on the side of the outer jacket close to the edge of the rim. This line helps you to check if the outer jacket is placed in center on the rim.

Release the air and bring the outer jacket in the correct position in case its not in centered. It's the same as you do with your bike tires in case they do not spin.

Why does Powerslide offer Roadrunner PU-Wheels for Off Road Skating?

PU-wheels are faster than air tires due to the material they are made of and the profile of the wheel. Those skaters who mainly skate on asphalted roads chose the Roadrunner PU-wheels.

Can I skate Off Road with Roadrunner PU-Wheels?

PU-wheels have advantages on asphalted streets and disadvantages off road. The wheel will sink into soft and sandy grounds and skating is impossible.

How do Roadrunner PU-Wheels react under wet Conditions?

PU-wheels in general lose grip easily when skating in wet conditions. That's the same for the Roadrunner wheel. The wheel could slip and you could have very little control. Better to not skate in the rain with the PU-wheels.

If it starts raining during your tour you better skate carefully. Do not put too much power into your stroke to skate safely back to your base.

THE ONE WAY BEARING

How does the One Way Bearing work??

Tires which feature the one way bearing only spin in one direction – forward. Special bearings (roller clutches) stop the backward spin of the tire.

Is it possible to use the One Way bearing on every skate model from Powerslide?

In theory you can equip all Powerslide nordic skates with a one way bearing tires. The question you have to ask yourself is if you really need it. See also next question in this matter.

How does the One Way Bearing help me?

The one way bearing has advantages if you skate uphill, cause you do not roll backwards after every strike - you save energy climbing the hill. This advantage can be used on skates with fixed boots like the Nordic Trainer skate or skates using a clap system like the Cross Trainer model.

The one way bearing also supports the forward skating with clap skates on plain surfaces.

Does the Cross Trainer from Powerslide feature the One Way Bearing Air Tires?

No, the Cross Trainer will be delivered without the one way bearing tires. The complete set up including the Road Star air tire from Kenda and the complete hardware can be purchased through our distribution network in the aftermarket.

Is it possible to skate the *classic* Style with the Cross Trainer Skate?

Basically no, because the spring doesn't open as wide as you are used to with your cross country skis. We recommend to skate *freestyle* with the Powerslide nordic skates. Short distances can be skated in classic style in case the path is very narrow and doesn't allow to skate freestyle.

Does the One Way Bearing work with Roadrunner PU-wheels?

No it does not! The core of the PU wheel has different dimensions than the rim of the air tire. The one way bearing has been especially developed for the air tire.

It depends on the development of the market how fast we will come out with the one way bearing for the Roadrunner PU-wheel.

Is there anything I need to pay attention to when I install the One Way Bearing Tires?

The one way bearing is already pressed into the air tires as a fixed unit. Pay attention to the running direction of the tire if you install the set up into your skates. There are set ups for left and right skates. The valve should always be positioned towards outside in running direction.

Should I use One Way Bearing tires for all 4 tires of my skate?

No you don't need to! The front tires usually hold the load. Heavy skater might chose the one way bearing set up for all 4 tires if they skate a lot in very steep ascents. But this is usually an exception.

Do you offer the One Way Bearing without the Tire?

No we don't. We only offer the complete set up incl. the tire. The reason is that we cnc-machine the inside of the rim for a perfect alignment of all parts of the set up to assure a perfect function of the one way bearing. The adapter that is pressed into the rim will not fit into "regular" rims and you need special tools to cnc the inside of the rim.

THE POLES

Whats the right length of Poles for me?

The poles should match the individual demands of the nordic skater. There are several brands that offer numerous poles for Nordic Skating. It should be no problem to find the ideal one. Anatomically shaped handle and loops and a so called *blader asphalt tip* along with a carbonfiber stick construction are features that are recommended for Nordic skating poles.

Find the correct length of your poles:

Body length x 0,90

Another check for the correct length of your poles: put the poles upright in front of you, while staying in your nordic skates. The top of the handle should be at one level with your chin.

The physical condition, length of your arms and legs, and the skating skills should also be considered when choosing the poles.

How do I replace the Tip of my Poles?

Worn out or blunt tips slip easily and make it difficult to perform well during skating. We recommend you replace the Tips regularly. It also could happen that the tip breaks. Follow these instructions on how to replace your tips:

1. Separate the bottom part of your pole from the top part in case you have size adjustable poles
2. Put the pole with the tip into a container of hot water
Attention: max. water temperature for carbonfiber poles is 80 degree celsius!
3. Keep the pole for about 10 minutes in hot water
4. Take a 10mm fork key and separate the tip from the pole with a stong pull. Your local shop might have a special tool for this kind of job.
5. Clean the shaft of the pole
6. Place the new tip into the shaft and firmly press the tip to the ground

Is it possible to sharpen the Tip of the Pole?

The tips of the poles are made of a very special hard metal and cant be sharpened. You would need a special tool to do so which is not available in the market.

THE BEARINGS

Which kind of bearings should I use?

Bearings are the heart of the skates. Quality of skate bearings varies a lot. The so-called ABEC rating (Annular Bearing Engineering Committee) is the usual sign for the quality of bearings. The ABEC rating represents the production standard, concerning accuracy and tolerance of the bearings. Usually you divide between ABEC 1, 3, 5 or 7 bearings. The higher the ABEC rating, the better the quality.

Note:

It's possible that a poorly greased ABEC 7 bearing is worse than a well-lubricated ABEC 1 bearing from a quality point of view.

The mark 608 stands for standardization of a manufacturing process. Number 60 represents the production series and the number 8 stands for the inner diameter of the bearing. Fitness skates are usually equipped with 608 bearings.

One common material for quality bearings is chrome steel. Some bearings are even made of titanium or ceramic. Ceramic bearings are self-lubricated and don't need as much service as regular greased bearings.

Bearings with two metal shields are called ZZ-bearing. They are called Z-bearing if only one shield is used. Be sure to place the open side of the bearing towards the inside when assembling the wheels.

Advantage of a half-open bearing: Easily serviced

Bearings which are characterized with 2RS are dust and water-resistant. The metal shields are covered with rubber, which helps prevent debris from entering the bearing, but will not stop it completely.

Meanwhile the first 100% rustproof bearings are on the market. These special coated bearings prevent the bearings from rust while increasing the time period between maintenance.

Please note that all Powerslide bearings should be maintained regularly – especially if you skate in the rain or in the dirt. Dust, dirt and water inside the bearing can damage the raceways and balls which influence the performance and lifetime of a bearing.

Spacers are located in the wheels between two bearings. They are made out of aluminium steel or brass, but most of the manufacturers use aluminium.

What does ILQ mean?

ILQ is aka In-Line Quality.

- ILQ is a marketing term vs
- ABEC is an industrial production standard as mentioned before

The grade of a Twincam bearing – for example ILQ 7 or ILQ9 - refers to the quality. The higher the number the higher the quality of the bearing. Same system like the ABEC rating. A comparison between ABEC bearings and ILQ bearings is not directly possible. An ABEC 7 bearing is not automatically the same as an ILQ7 bearing.

A Grain of Truth.

Twincam rightfully claim, that a bearing could have a very high ABEC rating - but be terribly unsuitable for skating. A cheap ABEC-9 bearing from an unknown company is probably much worse than an ABEC-3 bearing from a trusted manufacturer.

Also, most professional race bearing manufacturers never even apply for an ABEC rating for their high-end bearings.

The Bottom Line

Twincam is an experienced and highly respected bearing manufacturer who has proven that he managed to produce high quality bearings. You have to test them by yourself to build your own opinion about the quality of ILQ bearings.

How to maintain my bearings

The first signs to maintain a bearing are noises or heavy spin of bearings. To save some money you should maintain your bearings regularly.

Please follow the advice below:

- Disassemble the wheels from the frame
- Open the shields (if possible) with a needle
- Place the open bearings in a small container (e.g. turbo wash of Powerslide) that is filled with citrus cleaner or other cleaning liquids.
- Clean bearings carefully with a toothbrush
- Dry the cleaned bearings on a towel
- Grease the dry bearings with synthetic oil or other stuff
- Close the bearings again and assemble the bearings into the wheels.

Powerslide Care Products

Turbo Wash
Citrus Cleaner (zum Nachfüllen vom Turbo Wash)
PS oil
Teflon Lube
Teflon oil
Grease Injection (with Teflon)
Grease Spray
Care Set (oil, Cleaner, Y-Tool, Pins, Brush)

How often do I have to maintain my bearings?

There is no general advice on how often you should clean your bearings like there is no information how often you should wash your car. Every skater is different. Some maintain their skates and bearings almost every day, some wait until they lose performance and some just exchange parts.

Dust, water and dirt can damage the honed and polished raceways and balls of a bearing and has influence on the performance of the bearing and in the end on the speed of your skates. You can extend the lifetime of your bearings through regular maintainance. Nice side effect – you save money.

It really depends on many factors how often you should clean your bearings as you can see.

But please note that also rustproof bearings need to be maintained. Dust and dirt also damage the raceways and balls of the bearing. The bearing just does not rust.

Please note: Always maintain your bearings after skating in wet conditions!!!

What to do if I hear noises?

Check your skate immediately if you hear any unusual noises or rattling.

- Check boot-frame connection and make sure all mounting screws are tightened.
- Check each axle and make sure there is no loose ones
- Make sure you did not forget the spacers on your wheels

General advice:

Check your skates before skating to make sure that you can enjoy skating. Always carry a wrench or necessary tools to be able to maintain your skates during skating.

SKATE AND BRAKE TECHNIQUES

How to get started

Nordic skating is not difficult to learn. The stability on the skates is better than with regular inline skates due to the lower center of gravity, the long frame and the width of the air tires. Slightly reduced air pressure also helps to control the speed at the beginning and the poles can be useful to keep the balance during the first tryouts. A certain basic skating technique for nordic skating is required, but we are sure you will enjoy nordic skating after a few hours

POWERSLIDE recommends to all beginners of nordic skating to take professional skate lessons and especially nordic skate lessons. The instructor will teach you the basics of skating, speed control and stopping.

Find a traffic free parking lot, or paved playground, where you can practice if you do not have access to professional instruction. You may want to have a friend along to watch out for you. The first technique you need to learn is the right skating position. Lower your center of gravity by bending your knees and ankles and leaning forward slightly at the waist. This position will maximize your balance. Your centre of gravity is now directly above the centre of your skates.

Now you are ready to take your first stride. Push outward and slightly to the back with your right skate. Let yourself glide with your full weight on your left skate. Circle your right skate back under your body. Begin to push off again, using your left skate. Repeat these strides a few times and before you know it, you are skating.

To turn right, place most of your weight on your right skate. With your legs parallel, about shoulder's width apart, and with your shoulders level in relation to the pavement, point your knees and toes to the right which will help steer yourself through the arc. Avoid sudden or jerky movements that could force you off balance.

- **Specific skills for Nordic Skating (use of poles)**

The nordic skates from Powerslide are a real eyecatcher – no doubt about it. After the first question like “what kind of skate is this?” has been answered usually the second question follows immediately concerning the speed. Well, usually this question comes from speedskater standpoint. But the answer is simple. Speed is not an issue! The main purpose of nordic off road skating is a health orientated full body workout in the countryside. Skaters who look for speed should get some speed skates – of course from Powerslide ☺

Our philosophy of nordic skating means off road skating! All terrain, all weather, all season! But how to skate with the nordic off road skates?

The skater needs to adapt his skating technique to the long frame and the big air tires. The technique is close to cross country skiing. The coordination of both - the arm swing with the poles and the stride with the legs is the most difficult part. A good inline skater is not automatically a good nordic skater, because the skating technique is quite complex. Again we

would like to repeat that we recommend to take some lessons for nordic skating with professional nordic instructors.

In the following we will describe the different skating techniques as well as the braking technique.

Double-Push Technique

Both poles are used at the same time when skating the double push. The skates are parallel and the upper body leans forward to support each push with the poles.

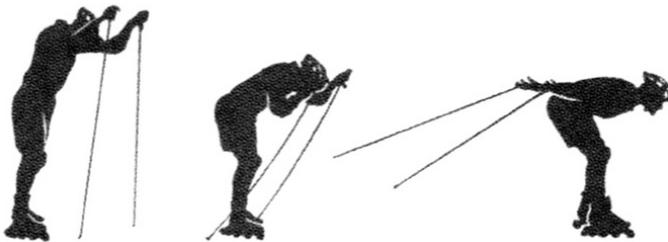


Image: Double Push Technique

Skating Technique

This technique is similar to the skating technique on skis or the ice skating. The skating technique supports the movement of the legs. Each second stroke of the legs is accomplished by a double push (2:1 technique). During sprint or uphill each stroke is accomplished by a double push (1:1 technique)



Image: Skating Technique

The 1st Gear: Diagonal Skating

This style is used to climb steep ascents or to skate in difficult terrain. The arms swing diagonally forward. The arms swing and the legs stride are always parallel on the same side

The 2nd Gear: Skating 1:2

This skating technique is an allround technique for all kind of situations. The 2:1 technique will be used to pass long plain terrain as well as medium to heavy ascents. The characteristic of this technique is that each second stride with the skate is supported by a timely almost synchronone, but spatially slightly asymmetric double push of the poles.

The 3rd Gear: Skating 1:1

This technique separates the good skater from the rest or better said the sportive skater from the beginner. Each stride is supported by a double push with the poles. You need a fine sense of balance for this technique, cause you roll on one leg only for the time of one complete cycle starting with the complete double push of the poles and additional arm swing forward again to prepare the next double push. Slow terrain or uphill skating with fast speed will be no problem if you are skilled in this technique.

The 4th Gear: Skating 1:2 with active arm swing

The name says it. Each second stride with the skate is supported by a double push as mentioned before. The rhythm of the arm-leg coordination is similar to ice speedskating who supports his speed with the arm swing. It's the same here, but nordic skater use both arms parallel. This technique is used to get maximum speed on plain terrain or easy downhill sections.

The 5th Gear: Ice Step without using the poles

Experienced skater should not have any problems with this technique. The poles will be tucked under the arms to save some energy or the arms swing active and diagonal forward to get some more speed. This technique is used on fast downhill sections during skating with tailwind. But its also used on sections where the poles can't be used (for example skating on cobblestones where the tips could break easy).

In addition, the Nordic Inline Skaters learned another technique its renaissance:

The Siitonen-Step:

Its useful on narrow tracks which you find on open fields or in the forest. You only stride with one leg only supported by a double push with the poles. During the whole cycle the other leg remains in the position of the skating direction and doesn't stride.

The Cornering

The cornering with nordic skates is different compared to the cornering with regular inline skates due to the length of the frame. In order to change direction the skater has to lift the skate and set it in the new direction. Its kind of a "walking" around a corner instead of gliding with regular inline skates. This technique is similar to the cornering with cross counry ski or with rollskis.

How to Stop

The skates are hip width apart and the upper body relatively in upright position slightly bend forward. The knees are slightly bend. Pressure on the cuff of the calf brake is applied by moving the “brake-skate” forward. The brake lever with the brake pad presses on the tire and slows down or stops the speed.

Both skates are offset to each other by about one shoe length and give more stability which is an advantage especially when skating in rough terrain.

The poles are kept loose on the sides with the tips pointed backwards. You can use your poles to support your body balance during the braking process if necessary.



Correkte Brake Position

THE PRODUCTS

Nordic Trainer



Picture: Nordic Trainer Skate

The Nordic Trainer skate is a very comfortable cross country skate for short and long distance off road skating trips through mother nature. The lightweight hybrid boot is a combination of a reinforced nylon shell and a softboot. Beginners but also experienced nordic skaters like the high comfort of the boot which also has good flex and lateral support.

The boot is constantly fixed to a rigid frame made of 6061 aircraft aluminium. The frame features a standard mounting distance of 165mm which also can be find among various fitness skates. This could give interested skaters the option to purchase the frame only in the shops in order to combine them with the bots of their fitness skates.

The skate is equipped with a calf brake system on the right skate only which has multiple options for fine-adjustment to optimize the brake function. The brake system is also available in the aftermarket and could be easy assembeled to the left side skate if requested. The user also could easy switch the brake to the left side skate in case his preferred brake leg is the left side one.

The air tires are the heart of the skates. We tested a lot of wheels and finally ended up to use the 6 ¼" *Road Star* wheels which have the strongest outer jacket in the market. Our Powerslide 100% rustproof bearings make the skate package of the Nordic Trainer set complete.

Cross Trainer



Picture: Cross Trainer incl. OPTIONAL brake system

The Cross Trainer skate will be the choice of the sportive nordic off road skater and athletes coming from cross contry skiing. The perfect alternative for the summer training. The boot features a lightweight shell made of a carbon / fiberglass mix including a fancy silver coloured design fiberglass outer layer. The wildlife will be estonished!

The shell of the boot is fully heat mouldable which allows you to customize the shell to the anatomy of your foot for a perfect and precise fit. For more information about the heat moulding process please read the instructions given in our Speedskating FAQ´s which you can find on our website

The skating with the clap bracket is now similar to the freestyle or skating style cross country skiing. Classic skating is not recommended. The clap doesn´t open alot. Due to the fact that the clap bracket features both mounting standards - 165mm and 195mm mounting distance – you could also use the clap for your Nordic Trainer skate from Powerslide or you might be able to set up your clap nordic skate with your own skate boots you already have at home. Assembly instructions can be found in the nordic FAQ´s on the internet.

The Cross Trainer skate comes without brake system. BUT you can add the new Powerslide calf brake system to your skates if needed. Simply place the brake system between the clap brakket and the boot and fix all with the mounting screws. Multiple options for fine-adjustment help to optimize the brake function.

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