

what's all this noise about plates?

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Plates are a very important piece of the overall pie that makes up the skater. They are comprised of parts that provide the steering (action) and support for the skater.

I could totally bore you with all kinds of geometry and math equations and several drawings, but then I wouldn't be very helpful. I could offer a biased viewpoint and pretend I know what is best for each skater, but that is not helpful either. What I will do is to share several examples of how plates and truck angles react under your feet. I also want to answer questions for you, such as: How do they feel? Will they make it easier to turn the way I want them to? Will they stand up to the rigors of roller derby? Will they make me faster? Will they give me the ability to have better footwork and faster foot speed?

turning radius

Turning radius is what size of a circle you can turn in without lifting your skates and only leaning. Let me briefly explain a few things.

What factors into turning radius?

1. wheel base

The shorter the plate, the smaller the turning radius, the quicker the response will be. An added bonus, shorter plates are lighter and inherently more rigid.

For derby you want the front trucks slightly forward of the ball of your foot, and the back trucks in line with your ankle bone. This is not an exact science and each skater may find they have to develop their own sweet spot.

If the plates are too long they will steer like a skateboard, balanced and stable, but your turning radius is severely reduced and the skate weight will be unnecessarily high. Most skate manufactures and distributors use standardized charts and templates to mount each and every plate, so they usually are long like skateboards when they come in a package. This can be OK for the recreational skater, and maybe even the beginning derby skater.

It is NOT OK for an advanced skater. Once the limits of the equipment are reached, most skaters have to compromise their technique to get past these limitations. This is an ideal time for an equipment upgrade, along with a period of re-learning to get back to proper skating techniques.

2. king pin angle and truck design

The steeper the king pin the faster the plates will respond. We will look at two examples, the Sure Grip Powertrac plate and the newly designed Sure Grip XK4 with DA45 (double-action 45 degree) trucks.



The Powertrac plate was designed for pure speed and it was highly sought out by quad racers. This plate is light and keeps everything in check with its more vertical king pin design (some people call this more stability) and it helps the skater turn left when they are ready (100 meter speed tracks have big sweeping turns). You really don't want slight shifts of weight to give you a huge turning response when you are going 100m fast.



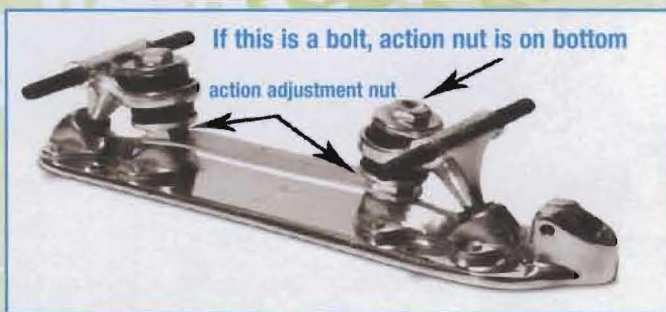
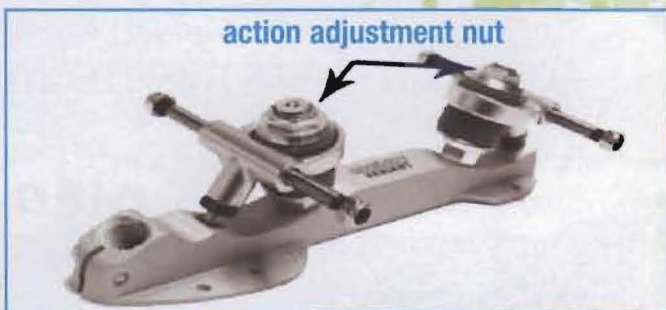
The XK4-DA45 (shown here in early prototype) is a totally different animal. Double-action 45 degree plates are not common but have several advantages over the conventional single-action 45 degree plate.

The steeper angle of the kingpin on the DA45 turns you left or right, with minimal effort. The derby track is not a hundred meters and turning left will happen often and so does an occasional right turn. The 45 degrees gives the skater more leverage to turn the trucks with less force. Some people call this better responsiveness or squirrely (if they don't like it). With the trucks more sloped (45 degrees), tighter turns are easier to initiate with less foot force on the plate.

3. cushions and suspension tension

Those two rubber or urethane things help your plates control the action. These may come in different hardness (depending on the manufacturer) or sometimes you might not get a choice. Depending how stiff these cushions are they can lessen the responsiveness of the plate, because the stiffer the cushion, the less responsive the plate. If you want to take full advantage of the ability of the truck/kingpin angle, you want them as soft as you can control and they will give the ability to turn faster with less effort. The stronger your legs and ankles are, the more responsive the plate you can successfully use. And this goes true for all degree plates. So cushions can be a way to tune your trucks' action to help you turn with less effort.

Along with the cushions is the tension you put on those cushions with the action nut. This is another way to tune your action, but remember, DO NOT over tighten the cushions. Only small adjustments should be used here. You don't want to risk breaking a king pin, do ya?



4. plate rigidity

Nylon plates are made for the recreational skater and many derby skaters are using them. Why? Well they are low cost, but where there is low cost you lose performance and durability. So would they be recommended? Well if you cannot make them flex and let the trucks work they should be fine. And if you do happen to break them, they are reasonably cheap to replace. However, if you are hard on your plates, you want metal. They have the strength and durability needed to withstand the rigors of derby. Yes, they are heavier, but skates in general are heavy and there are options if you shop around and have a few bucks to spend to find an equal median between weight and performance.

so what should I use?

Again, I'd like to offer you some insight. I believe that if you feel the plates under those skates of yours are the best for you, well, then they are. The equipment can only give you the opportunity to perform. You, the skater, must believe it will perform when you tell it to. I just want you to make an informed decision on what's right for you. To review:

- The steeper the angle, the more action that is available with less force.
- Softer cushions and reduced tension on them will require less force for the action to work for you.
- The shorter the plate the more nimble and agile it will be.
- The stiffer the plate the better the power transfer.

Hopefully I offered enough information so that when you are ready to upgrade plates you have some ammo. Also visit SkateLogForum.com and join a community of skaters that are just like you; a skater who wants the best for their performance.