SKATE SHOP

SKATE TALK WITH PATTI:

Revisiting boot support levels: What's enough, what is too much?

BY PATTI LARKIN

WHAT ARE BOOT-SUPPORT LEVEL RATINGS?

Many of today's boot manufacturers are now assigning a support-level rating to each of their boot models. Intended to be an educational tool/consumer guide, support-level rating systems indicate how strong a boot model is and what type of skating ability it was designed for (e.g., recommended level: double-level jumps or triple-level jumps). Choice of materials, stiffening agents and intended level of athletes wearing the boot are key factors in assigning each boot's rating. Manufacturers also establish these ratings based on how that particular boot model compares to other models within their own brand. Based on a scale of 0 to 100, the higher the number, the stronger, and higher-performing, the boot is.

For example, a boot with an 80 support-level ratings is designed and fabricated with higher-performance materials. It's able to handle a repetitive load and can resist deformation far more than a boot of the same brand with a 40 support rating. Higher-rated boots are designed for powerful elite athletes who train vigorously many hours a week. While models with a lower support rating may not possess as many high-performing components as a higher-support-rated counterpart, they still can provide adequate support for those skaters whose regimen requires a softer skate.

MISCONCEPTION #1: ALL SUPPORT-LEVEL RATINGS ARE THE SAME ACROSS ALL BRANDS

A common misconception is that support-level ratings are universally applied across all brands. This is simply not so. An 80 support level rating by company A may or may not be the same 80 support-level-rating by company B. As a matter of fact, an 80 support rating in one brand could actually be a rating of 50 in another brand. Because of each manufacturer's unique designs and choice of materials, one cannot accurately compare support ratings from one brand with another. Furthermore, one cannot assume that all boot brands with an 80 support rating are designed and fabricated exactly twice as strong as a 40 support rating in the same line.

MISCONCEPTION #2: I NEED A BOOT BASED ON MANUFACTURERS' RECOMMENDATIONS

As mentioned earlier, some boot manufacturers may also list jump-level recommendations. For example, an 80 support-rated boot may be recommended for those working on multirotational jumps, but the 40 support may be only recommended for those working on single rotational jumps. As helpful as this recommendation may be, it can also be a bit confusing for the consumer, because there are other important factors associated with each boot model that should be considered before the athlete is fit with any boot.

Let's take a 10-year-old who is 4'5," 60 pounds, working on double-rotational jumps five days a week. Based on research, jump landing forces imposed on the body can be up to 10 times the body weight. This young skater is absorbing up to 600 pounds of shock landing forces upon each jump landing. However, a 24-year-old who is 5'9", 160 pounds working on the exact same jumps for the same duration absorbs more than 1,600 pounds of shock landing forces. While the amount of shock that is imposed on the young skater is eye-opening, the landing forces on the 24-year-old are 2.5 times more. So how could both skaters with same skating ability and training regimen qualify for the exact same boot support when they differ so much in age, height, weight, strength and shock landing forces? The truth is, they don't.

If both skaters are fit with the exact same boot model, using only the boot manufacturer support-level and jump-level recommendations, without any other considerations, then the boot-support level that worked for the

24-year-old is more than likely too strong or restrictive for the 10-year-old. Conversely, the boot for the 10-year-old's individual body dynamics most likely lacks the support needed for the 24-year-old. Just because the manufacturer suggests a boot support level, that doesn't necessarily mean all skaters working on those elements qualify for that type of support.

"Boot-support ratings can be an important tool in selecting the right equipment, but it is a common misconception that stiffer is better," Kevin Wu, USA Jackson Ultima technical representative, said. "The term we use in this industry is 'over-booting the skater.' We also have to remember that biomechanically, an 8-year-old landing single Axel jumps is much different than an 18-year-old doing the same element; thus they would need different skates. Boots that are too strong for the skater restrict ankle motion and reduce knee bend, critical motions that are essential in every skating element."

MISCONCEPTION #3: INCREASE BOOT SUPPORT BASED ON INCREASED JUMP ROTATIONS

It seems to make sense that a skater training higher rotational jumps would incur higher landing forces and therefore should be fit with stronger, more sup-

portive boots, but scientific data proves otherwise. Interestingly, this data shows that there isn't any significant difference between shock landing force measurements among the multirotational jumps. For example, skaters land a double Lutz jump with about the same shock forces as their triple Lutz jump. So the question remains, "If skaters don't increase their landing force by doing more revolutions in the air, and we shouldn't use the manufacturer's recommended guidelines as the only way of determining correct boot support, how can one choose the correct support-level rating for the skater?"

A BETTER WAY TO DETERMINE BOOT SUPPORT

The answer is that height, weight, age, muscle mass, gender, frequency of training and past boot experiences are just as important, and maybe more so, when choosing an appropriate support-rated boot. Although support numbers should be considered when making a boot selection, more focus should be placed on the individual needs of each skater, their body dynamics and what works best for them. I find assessing the skater's current equipment is a great way to decide whether the boot support should be adjusted. If they struggled to break in their new boots last season, chances are they do not need increased boot strength, or perhaps a boot with less strength may be in order. Those who had a big growth spurt or increased their frequency of skating may benefit from a stronger, higher-performing boot.

If the boots didn't last as long as expected (provided they were professionally fit and worn according to manufacturer's recommendations), a higher-support-rated boot may be advisable. However, skaters training hard several times a week and putting high mileage on their equipment may need to purchase more than one pair of boots per season. Skaters should feel well supported and comfortable; their new equipment should not be too stiff thereby restricting their ankle mobility. If a skater is over-booted it can result in slowed progress, increased chance of injury and the loss of precious training time.

Coaches also offer great feedback and should be consulted before major equipment changes are made. They spend countless hours with their athletes and can provide insight on whether their skater needs to change their equipment requirements. Having a conversation with the coach before the next boot-fitting appointment will greatly help the boot-fitting professional find the best boot choice for the skater.

Next article: The Do's and Don'ts of Skate Lacing.

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