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Performance Digest

CONDITIONING INTERVIEW— MOUNTAIN TRAINING CONSIDERATIONS

Stephan Girard, National Mountain Bike Coach, USA Cycling

PC How did you get involved in mountain biking?

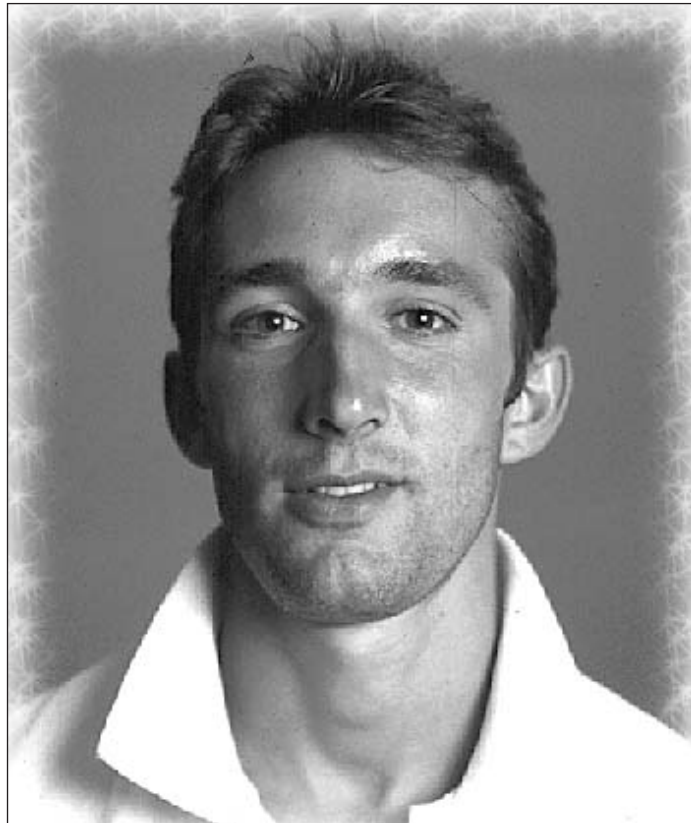
SG I was racing the mountain bikes in France when I was 17 to 22 years old.

I did my college studies in sport exercise coaching. I was working with the French federation. I was assistant to the national downhill team. I applied for the position as USA Cycling national coach and was fortunate to get the job.

PC What are the unique problems the mountain bike specialist faces as opposed to the road cyclist?

SG For me, the most challenging activity for the mountain bike athlete is to be a complete athlete, to be at a high level of fitness and also to develop a high level of skills. This is what makes the best mountain biker, the one who is good on the skills and has a very good fitness level. You cannot compensate by having a good level of fitness but being weak on the skills; you will not perform at a high level. The same is true in reverse—good skills and weak fitness.

PC What are the athletic skill components for the mountain biker?



SG You must first talk about endurance. Due to the duration of the race, 2.5 hours for men and 2 hours for women, the work capacity of the athlete will be the key. The mountain biker will have to have a good VO_2 and lactic threshold.

PC What about the other components of strength and power. Where do they come into play?

SG Strength, especially strength endurance, which is the ability to keep a good power output for a long period of time. Sustaining a high level of power output during long climbs is important.

PC What are the training concepts or principles a high-level mountain biker needs to adhere to; more specifically, where does cross-training fit into the picture?

SG The first advice I offer is to use all the different disciplines within the sport of cycling, training on the road, cycle cross. These methods are outside the classic mountain bike training. On the road you can do an effective endurance program. In cycle cross you can do high-intensity workouts and develop some skills. We can also go outside of cycling. You can do other sports outside of

cycling, such as the winter sports of cross-country skiing and snow shoeing, running and weight training.

PC Within the two training disciplines inside cycling and outside, what percentage or how much time would you spend with each?

SG This is where periodization is important. If we start with the off-season, in October we will take some time off. We will have them do some hiking, running and swimming. At this time 80 percent of our activity is done off the bike and 20 percent on the bike. We then move to our next phase, where we want to develop our endurance base. At this time we do a lot of road riding, about 60 percent of our training time. We will start to do activities on the mountain bike, about 15 percent; we will do some cycle cross, another 15 percent; and the final 10 percent will be done off the bike.

When we arrive at the competition phase of training we need to spend more time on the bike, almost 100 percent on the road and mountain bike. The ratio here is about 50 percent on the road and 50 percent on the mountain.

PC Since you are training mountain bikers, why do you spend so much time training on the road during the competitive season? What is the philosophy behind what you are trying to accomplish with this training method?

SG The first reason that road cycling is important is because it allows for recovery by allowing you to ride at low intensity. When you go on your mountain bike on the trail you have some steep hills and difficult terrain to handle; the athlete will have to push a little harder to go through it. On the road the rider can ride at a steady pace, which will allow him/her to recovery more effectively.

The second reason is if you want to do some positive endurance work, you can ride on a steady endurance pace, which is more difficult on the mountain bike. With the road bike you have better control of your intensity.

PC What would be a typical training week, considering this 50-50 road to mountain training ratio, if a competition is on Sunday?

SG Let's say that you have raced on Sunday and you have another competition on the next Sunday. On Monday you go for an hour and a half with the road bike for an easy recovery ride. Tuesday would be an off day. Wednesday you go back on the road bike for a 3-hour endurance ride. On Thursday you would go on the mountain bike for a couple of hours and do some intensity type training such as intervals. Friday you would do a very easy day to recover before the race. You might do a 1-hour ride that will pre-ride the course or do some technical work on the mountain bike. Saturday would be similar to Friday's workout, only a little longer on the mountain bike, maybe an hour and a half. You might again ride the course and introduce a few short intervals of high intensity.

PC Let's talk about strength endurance. What is the most effective way to develop this component for mountain biking?

SG One way is to do strength training in the weight room with the squat exercise or the lunge, classic work for the lower body. To develop strength endurance you want to do some exercises between 40 and 60 percent of one repetition maximum. You will want to do high repetitions of approximately 20 repetitions. But it's not enough to do strength endurance in the weight room. The motions performed in the weight room are totally different than in cycling. You want this strength but you also want the transfer from the strength gain to cycling mechanics. The way we do it is to do specific strength endurance on the bike. We do this by doing a long, steady climb in a big chain ring, doing 3- to 6-minute intervals at 50 to 60 rpms. You should stay seated while pushing this big gear. Start with two sets with about 3 to 4 minutes recovery. After the athlete has improved

their strength endurance, you can move toward three sets and increase the work period to 7 or 8 minutes with the same recovery period.

PC What is the relationship of the weight training to the on-bike strength endurance training?

SG What I like to do is weight training in the morning and on the bike in the afternoon. This afternoon ride would not be the strength endurance program I just described, but maybe a recovery ride on the mountain bike. I think it's important to have a close relationship, time wise, between weight training and the bike. If we do weight training twice a week, Monday and Thursday for example, I would do Monday morning weights and Monday afternoon technical mountain bike ride. On Tuesday I would go to the strength endurance ride. Thursday would repeat Monday's workout and Friday, Tuesday's workout.

PC Testing the mountain biker offers unique problems based on the high degree of skills necessary and the inconsistent terrain and trail situations. How do you monitor the progress of your athletes?

SG For me, the ultimate test is the race. This is the only true measure of the overall qualities of your rider, not only the fitness and skills, but how the rider performs. But the problem is we do not race year round so we have to do some other testing. We go to the traditional methods such as the VO_2 max. This will give you an indication of how much the rider's fitness has improved. We also do some power testing. The interesting measure is the power developed at threshold: What the oxygen uptake is at threshold, but more important how many watts the athlete is generating at threshold.

This is what will have the biggest influence on performance. I look at the end of the system—what goes to the bike and not what goes to the body in terms of oxygen uptake.

PC What are some of the indicators that tell a young rider that he/she may be a good mountain bike rider? When are some of the things that you see that indicate to you that an individual might be a good mountain biker?

SG One of the biggest keys for a young rider is to go step by step and not hurry too much. A 16-year-old does not want to train like a pro, to train 40 hours a week just to improve and be better. He has to respect the steps of training. One of the interesting things is the performance of this rider: how fast and strong is he/she—match it with what kind of training they are doing. If I see somebody who is really strong, but who trains a lot, maybe 30 hours a week to get to this level of performance, and I see another rider next to him/her who is just as strong but just trains 10 hours a week, it is obvious that the rider who trains 10 hours a week has the biggest potential. When he/she trains 15 hours a week they will be better and even better at 20 hours a week. And when he/she arrives at 30 hours a week this individual may be twice as good as the first rider. So, you look for the best performance at a minimum of training; that is the one you will have the most improvement from.

PC Reaction to the ever-changing terrain of the mountain biker seems to be an important training consideration. Is this something that can be trained and improved, or is it just something you are born with?

SG This is a mountain bike-specific thing. Anticipation and vision of what is going on if you have to shift, break, what type of line you have to take is the technical aspect of biking. Making smart decisions what line to take, the economy of riding is important because this rider will be able to adjust their physical potential to the fullest. A smart rider will not lose energy by being in the wrong gear. The rider has to be aware of all things that are going on around them all the time. You can't focus on just what's ahead. We have to be aware of other riders, if you are going up or down a hill if you have to brake—all these things. ●