

ASK THE COACH

Hello,

*my name is Jeroen and i have read your'e review about q-rings. i am a second year junior (racing for 16-17 years old people) and i would like to buy q rings but i dont know which type i schould buy. i mostly ride at 100rpm (cadence) sometimes i ride crits and sometimes i race on climbs. i race on a 52-39 tooth and on the back a 14-28 what would be the best q rings for me and is it possible to do maintenance on them whitout a lot of knowlege about chainrings
I'm sorry about my bad english i come from belgium but i tried my best.
i hope you can help me with my problem.
greetings Jeroen from Belgium.*

Hi Jeroen,

Thank you for your question.

Before getting started on Q-Rings, I am a professional level bike fitter and I coach a lot of juniors. Please allow me to share my thoughts as they are important to your continued health as you get older.

1) In my opinion, manufacturers put too long of crank arms on bicycles and this is why most cyclists are already experiencing tremendous knee pain when they come in for their first bike fit. The youngest I have helped was 35. The reason for their knee pain is that with too long of crank arms, your knees are hyper-flexed (too much flex, too much of an angle) in the upper (12o'clock) position. It's like when your gym teacher says don't go past parallel when you do heavy barbell squats. As a junior, it's important that you take precautions now since cycling is a summation of micro-injuries which will eventually catch up to you later in life. So, depending on how tall you are and your inseam, most juniors I bike fit, I recommend shorter cranks.

2) Saddles. For your health, I highly recommend a saddle with a cutout. Something like the Selle Italia Superflow, Specialized Power, etc. In fact, several juniors have opted for a ISM TT-type saddle. Cutouts not only protect your soft tissue but actually allow you to rotate correctly at the hips due to there being somewhere for the chamois/padding to go. Without a cutout, the saddle actually pushes back against you not allowing you to rotate correctly.

Hopefully these will help you maintain your health going forward.

Q-Rings. When asked about Q-Rings, I usually recommend starting out with getting the big ring first and using the existing small ring. As the Q-Ring gets smaller, there is less ovality meaning you don't get the benefits from a small ring that you get from a big ring.

A Q-Ring has the same teeth as its round counterpart so the gear-inches don't change. What you do feel is a reduced resistance at the dead spots. So, basically, if you can spin a 52 at 100rpm, then you can spin a Q-Ring at 100 rpm. My chain ring setup is 52 Q-Ring and 34 round ring. This is because we have some high %grade hills we train on ... 13%, 14%, 15%.

The other factor is OCP. Since everyone pushes down on the pedals at a slightly different point on the pedal-stroke, some people are a OCP 1, some 2, most are 3, I'm a 4 and a lot of Triathletes are 5. If you have the money, I would recommend Rotor 2-InPower as it comes with free training software



that also will tell you where your OCP is. For doing this manually, please see the attached PDF document from Rotor. Start with OCP 3 then see chart below to fine tune.

Summary, you should be fine with a 52 Q-Ring. Keep your current 36 small ring unless you do a lot of hills, then you might want to go to a 34T.

Also, I highly recommend (a) new chain ring bolts and (2) Rotor Q-Ring front derailleur shim (<http://thepartshoppe.com/product-category/misc-parts/>). This shim will help lower the back of the front derailleur cage so the chain won't rub against it when in the small ring.

I hope this helps!

Sincerely,

Rick

ADAPTATION GUIDE OCP

INITIAL SETUP

ROAD & MTB XC2
 TRIATHLON & TT
 MTB XC3

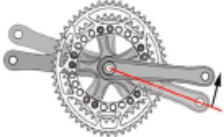
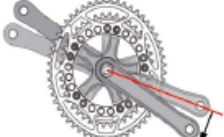
POSITION 3
 POSITION 4
 POSITION 2

Q-Rings use your leg muscles at a different rate than round rings, thereby changing your intramuscular coordination of motor units. Following this guide will make your transition

smooth. The duration of each stage varies from a day to a week. Full adaptation takes a minimum of 10 hours, although benefits can be seen right away.

STAGE	RIDING SENSATIONS	WHAT'S REALLY HAPPENING
PART 1: ADAPTATION TO Q-RINGS	STAGE 1: INCREASE PEDAL EFFICIENCY Pedaling may initially feel different, possibly leading to a faster or slower cadence than usual, but any jerkiness will gradually smooth out.	You're learning to pedal more efficiently. Muscle fibers are adapting and muscle activation is improving. This usually happens rather quickly.
	STAGE 2: BETTER MUSCLE BALANCE You are feeling more capable, more powerful, & you have a better spin when climbing. A new sensation may be felt in stronger or weaker leg muscles as adaptation occurs. Less knee pain for those that suffer from it.	Your leg muscles are starting to achieve a new, more efficient and balanced pedal stroke.
	STAGE 3: FULL ACTIVATION Your pedal stroke will start to feel smoother now, although it may not yet be perfect. (If you are experiencing joint pain see OCP setup guide below).	Improved biomechanical efficiency allows for full activation of muscle groups, thereby creating more power than with round chainrings. Knee problems are diminished with reduced knee loads.
	STAGE 4: CUSTOMIZATION AND FINALIZATION If you are in the right OCP position, pedaling will be as smooth or better than before and you will feel more capable. If you are in the wrong OCP position, you won't feel any advantage and may feel uncomfortable. See part 2 to resolve this issue.	Q-Rings reduce your weakness (creating less negative work in the "dead spot") and optimize performance (creating more positive work in the downstroke), enabling you to ride through tough conditions better than with round rings.

It is recommended you complete part 1 (minimum 10 hours riding) before changing your OCP (Optimum Chaining Position) setup

SYMPTOM	CAUSE	SOLUTION
PART 2: CUSTOMIZING Q-RING SETUP	<ul style="list-style-type: none"> Acceleration and sprinting are easy but maintaining speed is difficult Pedaling resistance comes too late/hyperextended ankle You need a lower cadence to be comfortable You sit further forward than usual to pedal comfortably It is comfortable to pedal standing but not when sitting Pain at the back of the leg behind the knee that you haven't had before 	<p>You are arriving at the max chaining diameter too late (OCP number too big)</p> <p>Reduce* OCP number by ONLY 1 step</p> <p>5 → 4 4 → 3 3 → 2 2 → 1</p> 
	<p>I'm not experiencing any problems; my Q-Rings are working fine.</p> <ul style="list-style-type: none"> Steady speeds are easy but accelerations and sprinting are difficult Pedaling resistance occurs too early/hyperflexed ankle You need to increase cadence to be comfortable You sit further back than usual to pedal comfortably It is comfortable to pedal seated but not when standing Pain at the front of the knee that you haven't had before 	<p>You are already in an optimal position!</p> <p>Increase* OCP number by ONLY 1 step</p> <p>1 → 2 2 → 3 3 → 4 4 → 5</p> 

Different bikes may need different OCP positions / Adjacent chainrings may need different positions / XC3 rings only have 3 positions / XC2 rings only have positions 2-4.

