

# YOU DON'T TAKE HAIRPINS AT 80KMH IN THE REAL WORLD

Forgive the derisive title, it may be a little inflammatory but nevertheless, it has become a stock response for our support team when they are asked questions like...

“why do I stop pedalling when I go around corners”

“why do I brake so I don't hit other riders”

“why do I brake when descending down the Stelvio Pass”

We know, we all get it, we really do - No one likes change, it's scary, but in this case, change is essential for cycling eSports to progress.

In reality, cycle racing is exciting because the courses offer riders different challenges based on the routes. Up until recently, cycling eSports has failed to capture this. It has been (at least for the most part) a threshold effort with a sprint at the beginning and end, and not much else.

It's boring, it's for testers (time trialists) and the guys who's physiological systems are better placed to deal with those physical demands.

This isn't good enough and it's making the sport boring to watch and even more boring to participate in.

## ENTER RGT PHYSICS

In the minds of the team at RGT Cycling all of the above outlined the need for change. So what are we doing differently to change the game?.

## INFORMED AND ACCURATE PHYSICS MODELLING

Firstly, we worked hard from the beginning to create a physics algorithm that was based on real-world research. It took us a long time and 1000's of iterations and we're still not done with this, but we're getting closer to a hyper accurate representation of the real world speeds and movement.

## BRAKING FOR COLLISION AVOIDANCE

Obviously, in the absence of steering we don't want you stuck in the stickiest of drafts unable to get away from your opponents in the sprint. However, we do want to simulate the need to move up to the front before long climbs, or big sprint finishes etc.

We also want you to be able to sit on the wheel of your team mate without constantly overlapping them.

To simulate this we have added braking to avoid you hitting the back of other riders. This has been crudely implemented elsewhere, and is sometimes referred to as sticky draft. On RGT you can see it happening as your power value turns red indicating the brakes are being pulled.

You can overcome this by pushing significantly higher power numbers than your opponent or by approaching them at a significantly higher speed.

## BRAKING FOR CORNERS

This is one of the most essential developments we have made in providing a more realistic racing experience

To recreate the [concertina effect](#) experienced in real life racing when you hit bends we have simulated breaking into corners. Sometimes this might seem slower than you would like but it's based on angles, forces, the line the rider takes, and pedal strike considerations to workout how slow the rider should go.

Corners, as with real life racing can become tactical opportunities to launch attacks from.

## SUMMARY

We know from our own personal experience as riders that our [normalized power values](#) are more realistic when racing on RGT, when compared with racing on other platforms and this is a good indication that we are on the right road to more exciting racing for virtual cyclists.

All things considered, we're working in a complex area, delivering on our commitment to realistic and engaging eSports for cyclists but we're a long way from finished and have features in development that add even more to the experience.

## THE DRAFTING UI

The RGT Screen App Drafting interface is broken down below:

Drift Back - This appears in the power HUD when power gets below the lower required amount to sit on the wheel. You will start to get dropped if you're seeing this.

Pull - This appears in the power HUD when power gets above the upper level required to sit on the wheel. You will start to come around the rider in front of you at this point.

Saving - This appears in the power HUD and shows the amount of power you are saving by sitting in the wheels.

Arrows >>> - The power value shown here is the value you need to maintain to stay in the draft.  
Arrows <<< - The power value shown here is the value you need to reach to come around the riders in front of you.

If you want to stay in the draft, stay between the two numbers next to each arrow, e.g

Taking the image as an example 170 watts (the halfway point between 100 and 240) would be the optimum power to aim for.

The power turns red (automated breaking) gets applied in the following scenarios:

#### NOTE

You will not get pulled into the draft at speeds lower than 16 km/h. (If there's no room to overtake then drafting is forced regardless of speed)

Hopefully this is helpful and goes someway to giving you an understanding of why we're doing, what we're doing.