

# Prorides

The bikes of the peloton



## Seventh heaven

WRITER: Marcel Wüst | PHOTOGRAPHER: Kai Dudenhofer

Quick Step's 2011 bike, the EMX-7, is a climber's dream and has a heavenly body to boot. Find out why the team should be enraptured with it [▶](#)



◀ Marcel liked the 3T cockpit that mixes carbon and alloy. The Quick Step team run FSA bars and stem



▲ The FSA seatpost cap gives a very clean finish to the EMX-7. Remember, measure twice, cut once

EMX-7 more of a challenge. Of course, I knew that even the pros can't push the aerodynamic frame to its limits, but I did a set of sprint reps for the sake of knowing whether I could give it a good run for its money.

The stiffness of the whole set-up is top class. Sometimes aerodynamically shaped headtubes can lose a bit of their stiffness but I couldn't detect anything like that here. The combination of the 3T alloy stem and carbon fibre handlebars is a perfect match. The grip on the drops is especially great and when I hit a long straight with a headwind, I left my hands down there and started to crank it up.



▲ The rear Fulcrum wheel uses 16 spokes on the drive side to eight on the non-drive side for power transfer

BACK WHEN I was a pro, I clocked up many kilometres on this road between Santanyi and Playa de Palma and I often employed the headwind here to do some extra-tough intervals. That way, this 35km stretch on quite flat roads would be filled with focus and concentration. The average speed of the end of these training rides was quite high. Working hard into the wind, the speedometer often came close to 40kph and doing 35kph was a piece of cake when riding back easy with the tailwind.

The Specialized M4 alloy frame I was riding then was one of the first ones that had a bit of an aerodynamic design. The airfoil monocoque EMX-7 is more than 10 steps beyond it, although I couldn't actually feel the aerodynamic difference while riding.

I don't believe too much in the numbers and figures produced by testing

frames in laboratories because it's more the feeling and handling of a bike that makes it interesting for the rider. That said, I did notice the EMX-7 has quite a long wheelbase. After checking the geometry, I found out that the wheelbase reaches or exceeds one metre in a 56cm or larger frame. For the Quick Step riders, this will definitely be an advantage in the spring Classics and on long, straight high-speed descents. I was keen to find out if the geometry would win me over on the twisty downhill section I had planned towards the end of my ride, though.

Because any descent must follow a climb, I attacked the slopes of the hill leading me to Randa and the Sanctuary of Cura, eager to reach the top. What I discovered was that climbing-wise this bike is perfect. In the saddle, I had quite

WHEN 2011'S CLUTCH of bikes was displayed at the Eurobike trade show in Friedrichshafen last year, most manufacturers presented touched-up versions of their top-end models. Not Eddy Merckx Cycles, though. They unveiled a brand new top-of-the-range machine: the EMX-7. It was destined to become the Quick Step team's bike this season, replacing 2009's flagship EMX-5. Fast forward to early 2011 and I was lucky enough to get my hands on one of the team bikes in order to get an impression of how the new bike has improved on its forebear.

Before I could begin, though, some preparation needed to be done. The integrated seatpost is pleasing on the eye but it did mean getting a saw and cutting the excess length off – an act I always approach with respectful caution.

▲ The Quick Step colours look fantastic on the EMX-7. It boasts a fierce stiffness-to-weight ratio of 130Nm

Measuring at least twice is the norm and it's a real relief when the seat-tube is finally shortened correctly. Thankfully, the FSA K-Wing stem cap is easy to put into place, clamping in from the inside. Not long after the cutting session was complete, I put my gear on and took off.

The sun was out, as it usually is in Mallorca, but it was also windy. Pedalling along with the sound of the Fulcrum carbon aero wheels in my ears, I found it hard to not ride flat out from the start. The undulating profile of the early part of my loop usually makes me push the

pedals a bit too hard to take all possible momentum into the next little hill. Because I was out for a blustery ride of more than 100km, though, I forced myself to keep the action a little slower.

The first things to note were that the integrated seatmast gives the frame quite a bit of comfort and the power transfer through the huge bottom bracket is unreal. This will please Tom Boonen and company when they're spending most of their spring on the job in Belgium and northern France, tackling the kind of roads that don't really deserve the name.

There were no cobbles to face on my route today, though, which I really appreciated. While cruising along, the life of a cyclist is just so much easier and more enjoyable.

When I passed the two-hour mark, still feeling fresh, I started to give the

**THE POWER TRANSFER THROUGH THE HUGE BOTTOM BRACKET IS UNREAL. THIS WILL PLEASE TOM BOONEN AND COMPANY**

## Specifications

- ▶ **FRAME:** Eddy Merckx EMX-7
- ▶ **GROUPSET:** Campagnolo Record
- ▶ **CRANKSET:** Campagnolo Record
- ▶ **CHAINRINGS:** 53/39
- ▶ **CASSETTE:** Campagnolo Record 11-speed, 11-25
- ▶ **WHEELS:** Fulcrum Racing Speed
- ▶ **TYRES:** Continental Grand Prix 4000 tubular
- ▶ **STEM:** 3T ARX Team
- ▶ **HEADSET:** FSA
- ▶ **HANDLEBAR:** 3T Ergosium Team carbon
- ▶ **SEATPOST:** K-Wing FSA
- ▶ **SADDLE:** Prologo Scratch Titanium
- ▶ **FORK:** EMX-7, full carbon integrated
- ▶ **WEIGHT:** 6.8kg
- ▶ **PRICE:** £3,778 (frame only) \$6,200 (frame only)
- ▶ **CONTACT:** UK: 01444 243000 US: 800 729 4482
- ▶ **WEB:** www.eddymerckx.be



an upright seating position and moving my body towards the front of the bike when accelerating out of the saddle made it really shoot forward. Despite the many switchbacks, I had the wind on my back which gave me the morale to go quite hard. The chain moved smoothly over the sprockets and when I threw it on the big ring on a little flat bit with about 1.5km to go, there was no delay: up went the chain and I took off.

When training and racing in Mallorca as a pro, I used to do some local races too and the one finishing on the top of Cura, 548m above sea level, was the only mountain summit finish I ever won. I felt like I was going harder for longer than ever before – until the day I took a spin on the EMX-7. I blew myself to bits on the last kilometre, knowing that a good ride always involves some suffering to improve fitness.

This bike is brilliant: light, stiff and a great companion on the climb. The rougher bits of the road seemed to be smoothed out by the seatmast but the whole rear end also gives the impression of great road feedback. So while there is a bit of 'suspension', the EMX-7 never felt dull or slow. The traction is great in uphill accelerations when I sprinted out of the tight corners too.

DURING A SHORT rest stop at the top, I started appreciating the bike's beautiful details. First, there's the so-called

**THE ROUGHER BITS OF ROAD SEEMED TO BE SMOOTHED OUT BY THE SEATMAST BUT THE WHOLE REAR END GAVE THE IMPRESSION OF GREAT ROAD FEEDBACK**

▲ The Classics-focused geometry with a long wheelbase makes the EMX-7 very stable but not as agile as some

## The Inside Track

Talking to **Jan Vanpraet** of Eddy Merckx Cycles



### How important was ride comfort when designing the EMX-7?

**JV:** When we conceived the EMX-7, besides performance, we paid a lot of attention to the comfort. Despite the integrated seatpost, we worked a lot with carbon lay-up and geometry in order to not compromise the comfort too much. The result's a stealth fighter jet that won't break your back when there's turbulence!

### Apart from the seatpost and internal cable routing, what else is new?

**JV:** In the EMX-7 we're using a 620GPa carbon fibre (aka a 62 ton high-modulus fibre). There's also been an evolution from pan-based to pitch-based fibres in order to increase the tensile modulus value, the measurement of fibre stiffness. This means virtually zero deformation of the frame in high-pressure situations.

In order to know where and how to use this type of carbon in the frame, we have proprietary techniques such as OSR (optimal structural reinforcement) and CL+ (stacking of carbon layers). These steps are assisted by Abaqus analysis and optimisation software. On top of that, we have aero designs on the main tubes, seatpost and fork. Then, to achieve optimum power transfer, we have the oversized BB86, asymmetric chainstays and the oversized headtube that tapers from 1 1/8 to 1 1/2 inches. We score very highly in terms of strength-to-weight ratio.

### Are the Quick Step team bikes you sell exactly the same as those the pros ride?

**JV:** Yes, they are. We use stock frames for the Quick Step team...

### Was there any feedback from the team riders you used when making the EMX-7?

**JV:** The Quick Step team is a key element in our development. Tom Boonen has participated heavily in the development and testing phase of the EMX-7.

### Would custom-built geometries be available if a top rider asked for them?

**JV:** Unfortunately not. But the sizing range we produce can accommodate 99.9 per cent of all riders.

'window' on the toptube, where no paint is applied so you can see the carbon fibres. Then there's the internal routing for the rear brake cable, which enters the frame quite low and runs through the toptube, reappearing just at the right spot to reach the brake without curving. What's more, the area where the toptube and almost square-shaped downtube meet the tapered headtube is more like art than engineering. The fork flows perfectly too and the result is one of the most beautiful front ends I've seen lately.

Is the beauty also a beast when it comes to flat out downhill riding? I was about to find out. The first 3km of the



downhill were on the same road I came up and I was quite happy with the predictable handling here. Braking late, even on carbon rims, was never dramatic and courageous leaning into the bends meant I was soon through. Then I took the turn off to the left at three-quarters of the way down the hill and got onto a road with 20 switchbacks. Some of them follow each other after a mere 10-15m and it was here that I discovered the EMX-7 is rather a slow slalom bike.

Don't get me wrong: there are no other roads like this anywhere in the world, at least that I know of. However, this stretch made me notice that shifting my weight and simultaneously inclining other test bikes with shorter wheelbases was definitely a quicker and more agile

▲ Marcel loved the exceptional rigidity of the EMX-7 for attacking short climbs and sprinting

process. As soon as the corners got further apart, I was back into the rhythm and prepared to give the EMX-7 full marks for stiffness, adjustment of fork and steering tube angle as well as handling when close to the limit.

When I reached the bottom of the decent in Lluçmajor, I was not only happy with my ride but also in the overall performance the EMX-7 had shown. I rode the last 35km with a good breeze on my back and, despite shredded legs, managed to do it in less than one hour – it must have been the bike giving me wings. I'm glad the wind was in my favour, since if it had been a headwind I would have probably called a cab and missed out on some more fun on Eddy's greatest ride to date. 

### Ridden by... Grand tour multi-stage winner Marcel Wüst



**Born:** Cologne, Germany  
6/8/1967  
**Residence:** Frechen, Germany; Majorca, Spain  
**Pro Career:** 1989 – 2001  
**First Team:** RMO  
**Career Highlights:** 14 grand tour stage wins (1 Tour, 1 Giro, 12 Vuelta)

During his career as a top sprinter Marcel won stages in all three major tours. A bad crash in 2000 forced early retirement. He now works as a journalist and television pundit, as well as running cycling camps from his base in Majorca, *Casa Ciclista*. He stays enviably fit and pushes every test bike to its limits.