

Cadel Evans's BMC time machine TM01

BMC's Racing Team may well have one of the biggest budgets in the cycling world, but until this year they were time trialling on a bike released in 2004. It's testament to how far advanced the carbon construction of the original Timemachine TT01 was that it has held its own, but this being le Tour, BMC has knocked out enough pre-production versions of the new Timemachine TM01 to equip the whole team.

BMC's engineers have managed to industrialise the manufacture of the new bike to the point they will now be able to sell complete, top-spec bikes below the price of the old frame!

Back to the bike itself, the matt black finish is impressive in the flesh; a stylistic stealth plane, no doubt visually assisted by the angular, truncated profile. BMC are the latest team to follow the cut-off aerofoil route to improving aerodynamics while maintaining stiffness. To aid airflow further, shaping on the leading edge, dubbed tripwire, is designed to create a pad of micro-turbulence on the tube's surface. This reduces drag in the same way as Zipp's golf-ball-style dimpled wheel surfaces.

Contemporary styling is not only limited to the tube profile — like the new Cervélo, and recent Giant, Scott and Specialized aero and TT bikes — the seatstays join lower and step abruptly outwards. Internal, shielded linear-pull brakes reduce the stopping issues often facing riders looking for the best aero performance. Dura-Ace Di2 shifting is far easier to hide from the airflow — the hidden battery in particular is impressive in its positioning if not the prototype-level finishing of the cover.



With Easton not producing a disc wheel, BMC have moved on from re-branding a Zipp product, to re-branding the 780gram Lightweight Disc. The lower weight was great, but the improved aero performance of frame and wheel combined clinched the deal.



Plenty of TT bikes are ruined aerodynamically with a bidon. Thankfully, team sponsor Elite are one company that make an appropriately shaped bottle and cage. Wind tunnel tested, the 28g carbon cage and bottle are a claimed 28 seconds faster over 40km over a standard bottle.

Hidden behind a cover on the fork, the TM01 uses linear-pull (the cable crosses the top of the brake like a mountain bike V-brake). These are easier to hide, more powerful, and easier to adjust than narrow-profile caliper brakes.



Cadel's unique requirements call for a lower bar position than is possible with the 'standard' stem. An Easton Attack base bar is held in position next to the fork and stem assembly by wrapping the whole lot in carbon-fibre and autoclaving the new unit.

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