

TRIPLE X LITE



BONTAGER
WHEELWORKS AND COMPONENTS™

THE CUSTOMER'S ALWAYS RIGHT.

After last year's Tour, Lance told us precisely what he wanted in a carbon wheelset for the mountains. We listened. And then we built them. For 2003, we're introducing the new Triple X Lite — a tubular OCLV® carbon version of our aluminum RACE X LITE wheelset.



/ We all saw Pantani crash this year in the Giro, descending at high speed, in the rain, on carbon wheels. While no one will ever know if the traditionally poor braking performance of carbon wheels in the wet led to Marco's demise, it's obvious that a dangerous situation was not avoided by outstanding braking control.

/ To date, high speed braking performance, especially in wet conditions has been the Achilles heel of carbon road wheels in the peloton, exactly why you'll see very few on a rainy day. And in the summer tours, with 5 to 7 hour stages, avoiding wet weather can be complete guess work. This makes the use of carbon rims a calculated risk in any mountain stage.

/ Lance Armstrong knows how to prepare for the Tour. And that preparation includes analyzing his risks and his equipment and challenging his engineers to reduce those risks. Exactly the case with Lance's climbing wheels. After the 2002 tour, Lance challenged the engineers at Bontrager to create a climbing wheel with the following parameters:

- As light as any wheel in the peloton
- Outstanding brake modulation and smooth stopping power, even when wet.
- As aerodynamic as a deep section carbon wheel
- Outstanding hub and bearing durability
- Easy handling, even in the crosswinds
- Requiring minimal maintenance for a 3 week tour. (ok, the team mechanics put that on the list)

/ It looks like a very tall order, but Keith Bontrager and the engineers at Bontrager love a challenge. Introducing the new Bontrager Triple X Carbon wheelset—Custom designed for Lance's tour defense, but available to the general public in the fall of 2003.

/ The Triple X rim was made with the exclusive OCLV carbon process with 110gsm carbon fiber. With a patent pending construction method, the rim features a dead flat braking surface for smooth, consistent and predictable braking performance. The low profile of the carbon rim keeps the rim light, but also makes the wheel exceptionally easy to control at speed, even in tough crosswinds. And even though the rim is relatively low profile, the Triple X has been wind tunnel tested and proven to be as aerodynamic as any climbing wheel Lance has used in the past, in all but the most extreme crosswinds.

/ The engineers also realized that they could create a lighter hubset by going with a flangeless, straight pull design. But no compromises were made when it comes to the bearings or rear hub drive mechanism. The engineers also remember Tyler Hamilton crashing at the 2001 Giro. The hubs feature Swiss made over-sized cartridge bearings ready to withstand the rigors of the tour as well as the brutality of a team mechanic's powerwasher.

/ The biggest challenge from Lance was handled by Keith Bontrager himself. Given that Lance wants to ride these wheels up the mountains, and then back down the other side, wet or dry, Keith quickly realized that no brake pads available today would provide the wet weather performance need to make Lance feel confident and safe descending at 100kph in the rain. So Keith made his own.

/ It was the perfect Bontrager project—lots of variables, loads of engineering and physics and an answer that could only be confirmed after hours and hours of real world testing. The end result is Bontrager CarbonStop™ brakepads, for all-weather carbon rim braking performance. Wet weather will still require a longer stopping distance, but the CarbonStop™ pads will do it faster, smoother and with more confidence than any other pad available from anyone.

FEATURES

/ Patent pending rim construction method creates a more consistent, reliable braking surface. Combined with new Bontrager CarbonStop™ brake pads, this is the first all carbon rim to provide confident braking performance in any weather

/ Features a sleek new flangeless hub that's light, stiff and easy to service

/ Constructed of proprietary OCLV110 carbon fiber, chosen for its superior balance of light weight and durability

/ Paired Spoke Technology results in a stronger and more aerodynamic wheel

/ 495g 20 spoke front, 690g 24 spoke rear wheel

/ US Patent 5,931,544

