

CAMPAGNOLO DISC BRAKE PROJECT WHEN PRECISION COUNTS

DB
360



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CAMPAGNOLO PRESENTS DISC BRAKE COMPONENTRY

After much speculation by cyclists and journalists alike, Campagnolo is pleased to introduce the long-awaited Disc Brake component line. By placing more emphasis on maintaining integrity and ensuring Campagnolo quality and less priority on being “first to market” the Italian company has concentrated solely on quality while ignoring the calendar and accepting none of the compromises associated with working in haste. Extensive research and development as well as countless hours and kilometers by professional athletes were put into the Disc Brake Project and the time has come to show off the products that have earned the prestigious title of “Campagnolo Corretto”.

While the Disk Brake Project doesn't mark the company's first foray into hydraulic stopping power, having developed performance solutions for motorcycles a few

decades ago, the new cycling-specific project required an entirely new area comprised of both new talent and seasoned engineering veterans within the Campy Tech Lab. In a collaboration with Magura, this new and highly specialized engineering wing of the Italian Campagnolo facility set forth to apply Campagnolo engineering expertise to the German brand's existing hydraulic braking technology in order to develop a road disk brake solution that is truly worthy of the Campagnolo brand name. Magura's expertise in hydraulic functionality proved to be fundamental in terms of guaranteeing the best possible functionality while incorporating both Campagnolo designs and technical input. To meet standards of ergonomo-
y, performance, reliability in addition to new design and safety aspects developed by the Campy Tech Lab, Campagnolo engineers spent months developing, proto-



typing and modifying version after version leading up to today's finished product.

The Campagnolo performance standard is now available for disc brakes and no matter if you choose mechanical or electronic shifting, there is now a Campagnolo disc brake solution for your cycling needs. The high-end solution for Campagnolo disc brake solutions goes by the name of H11 and is available in both EPS™ and mechanical versions and comes complete with a sophisticated carbon fiber brake lever on both versions. The mid-range offering comes via the Potenza 11™ Ergopower™ which is built with an aluminum brake lever and contains internals specifically designed for the Potenza 11™ mechanical transmission. The Campagnolo Ergopower™ command has long been the industry leader in terms of ergonomics in addition to offering a unique and elegant Italian design. The disc brake version of this



widely respected component was designed in such a way that both ergonomics and aesthetics remained as faithful to the design of their rim-brake counterparts as possible. To house the hydraulic cylinder, the internals were completely redesigned to make room for a great deal of additional hardware with respect to the rim brake version. However, when compared to the current rim brake Ergopowers the new disc brake versions are a mere 8mm taller, making this perhaps the most elegant DB command solution available in addition to maintaining the universally lauded Campagnolo ergonomics with nearly zero modification.

Not only were ergonomics not compromised to make a DB specific Ergopower™, they were improved. The additional 8 mm, while discrete in stature, are just enough to offer an additional position atop the hoods. The brake lever ergonomics maintain their double curve structure but have been slightly modified to include an outward curve at the lower extremity in order to follow modern handlebar design. In addition to fantastic "static" ergonomics, the Campagnolo disc brake Ergopower™ offers personalizable ergonomics by using a simple 2.5mm allen key. The Adjustable Modulation System, or AMS, offer two positions (long and short) that allow the rider to set his or her preferred free stroke. A separate dial commands reach adjustment and micro-settings allow the rider to choose down to the millimeter where he or she would like the initial lever position.

The master cylinder housed inside the command is universal across the entire range of Campagnolo disc brake Ergopower™ models. The bleeding port is found at the top of the Ergopower™ in order to ensure faster and more efficient bleeding operation and the system uses a non-toxic and environmentally friendly low viscosity mineral oil.

Interaction with the transmission remains the same as both mechanic and electronic versions maintain the tried and

true “one lever, one action” philosophy of control layout. As the moving parts of the transmission remain the same, so does the interaction to carry out shifting. Ultra-Shift in the mechanic version and Multishift technology on its EPS™ allow the rider to shift multiple gears in one single action. Loyal Campagnolo athletes who choose to ride disc brakes will immediately adjust to the new groupset as shifting input has not been altered in any way.

The Ergopower™ is capable of offering a fantastic and surefooted grip, offering control no matter what position your hands may find themselves in during the ride. However, great controls must be connected to equally potent and reliable brakes to offer fantastic performance. The forged aluminum Campagnolo disc brake calipers are available in a flat mount configuration meticulously studied to be perfectly compatible with all flat mount frames and forks currently available... without the need for any converter or adaptor. The lack of adaptors makes for increased system rigidity, increased system integrity and an improved aesthetic with no superfluous material. By offering 160mm front and both 160 and 140mm calipers for the rear the cyclist may choose the perfect configuration for his or her frame. The calipers themselves are mounted using only two screws with several screw length options available to ensure perfect compatibility with any frame. By using only two screws the Campagnolo solution not only eliminates additional screws and reduces weight but also offers a construction that is extremely safe with all bolts visible for inspection.

Lightweight and powerful 22mm pistons made from phenolic resin, chosen for its thermal insulation qualities, provide ample power transfer from command to pad. The design of the brake incorporates a magnetic spring on the pistons which eliminates the need for mechanical springs between the pads and guarantees a faster return as well. The roll-back, or return, ensures smooth and efficient pedaling while not braking and the 0,4mm-0,6mm distance guaranteed by Campagnolo is even with the industry leader.

Obviously the most critical part of braking performance occurs at the contact points and the Campagnolo pad/rotor interface is extremely performance oriented while not sacrificing anything in terms of reliability and safety. The organic resin pad compound is extremely resistant to heat and provides uniform and consistent braking performance despite varied temperature or climatic conditions. A pad capable of performing under extremely elevated



temperatures must be mounted to an equally resistant frame to ensure the unit remains integral under duress. The Campagnolo frame is made of steel in order to attain optimum system integrity. Aside from performance and safety, maintenance was also an important factor in the design as a visible wear indicator has been included in



the pad construction. Wheel changes are also simplified as the special design on the Campagnolo disc brake pad is shaped in a way that guides the disc into position.

Last but certainly not least the disc brake unit cannot be complete without discs, and a high performance disc brake groupset must come with equally high performance rotors. In developing professional grade disc rotors, as with brake pads, the fundamental key to not only extreme performance but also safety and reliability is incorporating maximum resistance to heat. The AFS compatible Campagnolo rotors with safely rounded external edges not only dissipate heat in a safe and uniform manner but are able to guarantee performance in situations of heat that compromise the functionality of products coming from their competitors.

As the geometries and spacing found on disc brake frames differs a good deal with respect to their traditional rim brake predecessors the design of the transmission and chainline must take these differences into account to ensure optimum performance. Campagnolo engineers



have developed the H11 crankset to match perfectly with Super Record™, Record™ and Chorus™ transmissions as well as a new Potenza 11™ crankset that ensure shifting is as crisp, clean and precise as any other groupset with rim brakes. This new crankset design, in both H11 and Potenza 11™ versions, ensures excellent precision for 142mm rear spacing and does so without altering the Q factor.

Perhaps the wait has been long but the attention to detail and the resulting performance and reliability make for a final product that is more than worth the time it took to bring to market. Each and every single component in the braking system was scrutinized and meticulously developed from the ground up in order to ensure the most efficient and safe solution possible. The Campagnolo disc brake groupset sets a new performance standard as it decelerates at anywhere from 23% to 26% faster depending on the competitor in the wet and anywhere from 4% to 55% faster in dry conditions and all the while requiring less hand force. It achieves this performance while assuring complete safety and the system is fully capable of withstanding heat and maintaining performance in situations that cause failure in certain models of the competition. The Campagnolo disc brake components offer not only extreme performance, Campagnolo reliability and cutting edge technology in a race winning package but do so in an industry leading lightweight construction.