HART



CANE CREEK DOUBLE BARREL

PRICE: SHOCK W/ STEEL SPRING – $650, SHOCK W/ TITANIUM SPRING – $850; **SIZES (STROKE X EYE TO EYE LENGTH):** 1.5x6.5", 1.75x6.75", 2.0x7.5", 2.0x8.0", 2.25x8.0, 2.5x8.5", 2.5x8.75", 2.75x8.75", 2.75x9.0", 3.0x9.5"; **CONTACT:** CANECREEK.COM

AIMING TO BUILD ONE OF THE BEST REAR SHOCKS ON THE MARKET, CANE CREEK WORKED WITH LEGENDARY SUSPENSION PIONEER, ÖHLINS RACING AB, TO PRODUCE THE DOUBLE BARREL. BORROWING TECHNOLOGY FROM ÖHLINS' TTX40 SHOCK, THE DOUBLE BARREL USES A TWIN TUBE DESIGN THAT OFFERS MORE ADJUSTABILITY AND DAMPING CONTROL THAN ANY SHOCK ON THE MARKET, BUT IS THAT NECESSARILY A GOOD THING?

THE**TECHNOLOGY**

The Double Barrel shock is different than a traditional shock in that it uses a twin tube design in the shock body. The twin tube design circulates oil between the inner and outer tubes through adjustable compression and rebound circuits. Cane Creek's damping system is unique because the primary purpose of the main piston in the inner tube is to force oil through the valve circuits rather than regulate the damping rates like a conventional shock design. The main piston in the Double Barrel is heavily shimmed, designed to open only to compensate for hard impacts. This design forces a large amount of oil through the circuits and creates an extremely wide range of adjustment.

Besides the twin tube design, the Double Barrel has some other notable features. It uses spherical bearings and a polished hard chrome-plated steel shaft that greatly reduce friction during movement. The shock is available with a titanium spring or a steel spring. The Double Barrel has four damping adjustments to cover low- and high-speed rebound and low- and high-speed compression.

One-way check valves regulate the oil movement so that it routes through the proper circuit according to the compression and rebound phase of the shock. The compression and rebound circuits use the same adjuster design even though they regulate opposing movements of the shock. Low-speed oil flow is controlled with needle valves by opening and closing an orifice. Around the outside of the low-speed adjuster sits the high-speed valve. A spring-loaded valve, called a poppet valve, controls the high-speed damping by regulating the preload the spring has on the valve. When the oil flow verwhelms the low-speed needle valve, it forces open the poppet valve. This makes the high-speed adjustment "speed sensitive," meaning that it will open according to the velocity of oil flow. The faster the oil flow, the more the valve will open.

THE**RIDE**

Setting up the Double Barrel for the first time is best done systematically, understanding that it may take more than a few runs to get the settings dialed in and fine-tuning each adjustment with 1/4-turns. Taking the time to review the manual and follow the setup instructions is important; we can't stress that enough. The shock offers a lot of damping adjustments and the stock settings could be far off from what is needed for certain frame designs and rider combinations. If you have a moderate understanding of suspension then a good day on the trail and some patience is all you'll need to get things working right but don't feel bad if you need to give Cane Creek a call because it can be very helpful.

When setup properly, the Double Barrel almost feels over damped, which is the main reason that we recommend systematically following the instructions. The shock has an excellent adjustment range, but the best thing about the Double Barrel is that it has a firm, responsive feel and still has the ability to open up to compensate for a hard impact. Tuning the low-speed damping is relatively easy, but the high-speed poppet valves take trail time to adjust correctly. With so many adjustments available, the shock may be overwhelming for some riders and may make it difficult to feel completely confident with the current settings on any given trail; it always feels like something could be changed. The beauty of the Double Barrel is that you can.

PEDALING & HANDLING The low-speed compression and rebound damping go hand in hand and are used to tune the pedaling ability and handling of the bike. We mostly used the low-speed compression and rebound adjusters to control suspension movement from pedaling but the adjusters can also help regulate how the bike handles as the rider shifts his weight around the chassis, which can be helpful in manipulating how the suspension feels while cornering. Riders that like to ride off the back of the bike will use more low-speed compression to keep the suspension up in the travel when riding through rugged sections and balancing front and rear wheel traction in corners. While turning in the low-speed damping adjusters can help setup the shock with somewhat of a pedaling platform, the shock helps the bike pedal well even with a sensitive setup. This comes from the speed sensitive design, which gives the shock a firm feel until an impact opens up the high-speed valves. This makes the bike pedal well in any situation, especially when sprinting out of corners and motoring along the flats.

HIGH-SPEED REBOUND DAMPING The main duty of the high-speed rebound damping is to control the return rate of the shock when encountering medium and big impacts. We usually prefer a fast rebound rate but since the valve opens up when returning from deep within the stroke, we were able to slow down the rebound to get less kick from hard hits and jumps without having the shock pack up in the travel. This lets the rear wheel track on fast, rough terrain and during hard braking, and keeps the bike under control on hard landings.

HIGH-SPEED COMPRESSION DAMPING Basically, the high-speed compression damping controls how the suspension absorbs bumps, regulating how much of the travel is used during a hard impact. Between the poppet valve and the shim stack on the main piston, there are two phases to the high-speed compression damping of the Double Barrel. This gives the shock a firm feel, providing a seamless and progressive damping curve that uses less travel than most shocks to absorb an impact. The shock is affective at absorbing medium and hard hits; it sucks up square-edge bumps and takes hard landings with ease. However, some riders criticized the shock for unexpectedly using a lot of travel through medium g-outs and when coming off of the lip of a steep jump. For everything else, the Double Barrel is impressive; whether you're slamming through rocks, trekking across roots or sending it off huge drops, the Double Barrel can handle it.

SUSPENSION BALANCE The progressive compression damping rate tends to make the rear suspension ride higher in the travel and changes the balance between the front and rear suspension as well as how the bike handles. In order to provide a common feel between the front and rear suspension, we found two solutions that could be done, depending on the rider and bike design. First, you can stiffen up the spring rate and/or compression damping on the fork. This will give the bike a stiffer ride that caters more towards aggressive riding, so it may not be for everyone. The second is to run a softer rear spring rate, which some riders will want to do if they are teetering between spring rates and have the option to run a little more sag.

OVER**VIEW**

Using proven technology from Öhlins, Cane Creek gave the Double Barrel shock excellent control and outstanding adjustability. Equipped with externally adjustable low-speed and high-speed rebound, and low-speed and high-speed compression damping, the shock has an excellent damping range that requires a moderate understanding of suspension to tune it. The Double Barrel provides a firm compression feel and can handle anything you want to run over.