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Transition TR450 Review

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Transition came out swinging when Lars Sternberg showed up with his TR450 at Sea Otter back in 2009. The TR450 represents what Transition Bikes felt was necessary in full on dedicated downhill race bike. They took a lot of what they learned on the Blindside and took note of what key things were necessary in building a downhill race bike. Be sure to watch the designer chat video with Kyle Yong talking about what went into the TR450 on the [main review page](#).

Vitals on the TR450

- 3 sizes (S, M, L)
- 83mm BB / 150mm rear end
- Geometry chips to allow changes in the stock geometry
- 9.5 x 3" shock yielding 8.25" of travel

- 31.6mm Seat Post

The Frame

First off, one of the key things we noticed they tackled was frame stiffness. The TR450 is a bike that was clearly designed to be stiff and flex free. When you're laying down strong pedal strokes or going fast it's important to have a frame that won't noodle around underneath you. During testing we noticed this stiffness in many situations allowing for improved bike control and snappy power delivery.



(click to enlarge)

Transition incorporated a 150mm rear end with an 83mm bottom bracket on the TR450. The bottom bracket area is a robust 2 piece section that also has machined ISCG-05 tabs off of the bottom bracket shell. It doesn't get much better in this area, as it helps provide a solid framework for the rest of the bike to build off of. The 150mm x 12mm rear end offers the standard downhill wheel setup and has more than enough room for big tires as well. Throughout our usage with the TR450 it was creak free and essentially maintenance free. The use of big bearings and solid axles at each pivot help make this bike almost set and forget.

Mud shedding is important as well and Transition kept all of the external points of the bike CNC free. This made it very easy to clean the bikes surfaces, as there aren't really too many pockets for mud to sit on. The rear chainstay area is typically a problem area where mud can gunk up as it flings from the rear wheel onto the bottom portion of the chainstay. The TR450's smooth section here helps mud not stick easily. Some mud collection in the TR450's central linkage section is possible though we noticed. A mud guard of some sort would be nice here.



(click to enlarge)

The cable routing on the TR450 worked quite well. The rear derailleur cable runs through the rear chainstay. On some internal cable routing designs it can be hard to snake the cable through the chainstay but the TR450 was pretty easy, as the cable is partially accessible from the inside of the backside of the chainstay.

The rear derailleur hanger is replaceable. It isn't part of the frame itself so replacement will set you back roughly \$26.

The TR450 isn't the lightest of frames, but it certainly has been up to the task of durability. With a lot of manufacturers trying to compete in the weight game, Transition seems to have focused down the durable road instead. The weight felt pretty centrally located and low in the frame giving it good balanced feeling. Paired with the low shock position, the bike certainly is quite nimble and it rode lighter than the scale might suggest. For 2011 we've been told the frame has been lighted up a little bit more as well.

Geometry

The next point on the menu we noticed was geometry. Transition's Lars Sternberg knows his way around a bike and the geometry he helped push them towards is one that many current downhill bikes seem to be gravitating towards. The TR450 is available in 3 sizes (S,M,L) and the range that they cover is quite good. The bike can be set up low and slack, but Transition also incorporated geometry chips that allow the bike to be adjusted in a variety of ways.



multiple geometry chips come with the TR450 (click to enlarge)

The frame ships with the linkage installed with the middle position geometry adapters (63.5° HA, 14" BB). You can then swap out the other adapters (see above) into the linkage below to achieve a slacker setup, or a steeper one. Consult the geometry chart to see the exact figures.



stock factory chip setting

With the slack geometry chips installed, our large TR450 had a bottom bracket height of roughly 13.7", a 63° head angle, and about a 47.75" wheelbase. In the low and slack setting the TR450 is a stable bike in the rough stuff. It felt confident and planted at speed. Overall, body positioning felt pretty neutral on the bike and it didn't feel like it had to be rode too hard over the front or back.



(click to enlarge)

If this type of low and slack setup isn't your cup of tea, Transition includes chips that let you bring the geometry into two higher settings. Additionally, they used a short headtube so you can tweak the geometry of the bike by moving the crowns up/down on the stanchions as well as installing a zero stack (or non zero stack) bottom headset cup to tweak things further.

Suspension

The TR450 comes stock with the FOX RC4 coil shock. The RC4 worked well on the TR450 and we felt it offered a nice range of adjustability in the TR450's sweet spot. We also tried it with a Cane Creek Double Barrel that also worked very nice on the TR450. As to which is better on the TR450, they both can be tuned nicely to work well with the bike. The Double Barrel we felt offered a wider adjustment range on LSC, HSC, and LSR compared to the RC4 in addition to having a High Speed Rebound adjustment that the RC4 lacks. The RC4 was easy to set up but the Double Barrel offered a wider range of adjustability if you are in to fine tuning your ride.



(click to enlarge)

The suspension on the TR450 uses a linkage actuated single pivot design (you can see the suspension animation on the [main review page](#)). The main pivot is located about the same height as a 36-38t chainring so pedaling felt pretty good. Suspension damper technology has come a long way and I feel that because of this, Single Pivot linkage actuated designs have made a comeback of sorts in recent years and for good reason.

Sometimes you can get on a bike and it eats up big terrain, but it can be hard to get it off the ground without having to run an over dampened or oversprung setup. The TR450 seems to have managed to keep some of the agility we like in a bike but still is capable of taking the bigger hits and bigger features well. The TR450 has a pretty supple initial stroke that helps smooth out terrain nicely. Overall the rest of the suspension's movement felt pretty linear but with a little ramp at the end of its travel to help smooth any big bottom outs. The design works well and is was quite predictable throughout the suspension range.



(click to enlarge)

The use of 22.2mm shock hardware made changing springs quite easy on the TR450. Sometimes overlooked by manufacturers, having to remove the lower shock hardware can be a bit of a process. 22.2mm shock hardware helps facilitate running the right spring in our opinion and certainly makes it more likely that the right spring will find its way on there.

Review Build Highlights

The 2010 FOX 40 RC2 is an impressive downhill fork, and the 2011 one takes it to another level. It stayed composed nicely in rough terrain and has a certain stiffness to it that helps give some additional confidence in rough terrain. The damping adjustments on it felt great as it gobbled up low speed and high speed terrain well without using too much or too little of its travel. Accessing the low/hi speed knobs on the base of the fork is a bit annoying when you want to change settings mid run, but the 2011 model moves these adjusters to the top of the fork thankfully. Some spring rattling noise can be heard from time to time but its a smooth fork that is one of our favorite downhill forks to use. It isn't the lightest fork on the market but it works very nicely.



(click to enlarge)

The LS1+ is e.thirteen's budget chainguide but we found little to complain about it in the performane department. It doesn't offer quite the same weight benefits, or adjustability as the LG1+ but it can take a beating just as well.

The Shimano Saint cranks are set and forget for us. They're stiff and have been maintenance free. If you're not running a Taco style chainguide the bigger chainring tabs they have might be an issue. The Saint brakes also offer a ton of power and have been just as reliable as well.

Much like the cranks, the Thomson seatpost was an easy choice for us. Quality seatpost that is machined beautifully and just works.

The Point One Podium pedals offer a nice amount of grip and give a little bit extra ground/rock clearance. We've put a tiny washer between the beefy Saint cranks to give the pedals a bit more clearance. We have been running these pedals on rocky courses for some time now and we've yet to mess up a single thread on the Point pedals and even the pins have almost all held perfectly straight. Oh yea, and they're pretty light too at ~368g.



LS1+ guide and the Point One Podium pedals(click to enlarge)

Riding the TR450

The TR450 was an easy bike to jump on and quickly become familiar with. Jumping felt easy and pretty intuitive on the bike. Changing lines was notably quite easy to unweight and reposition where it needed to be. On the faster rough terrain, the slack and low setup helped keep it stable and planted nicely. Sneaking in pedal strokes took some caution in the rougher terrain due to the bottom bracket height but I typically don't have too much issue with clipping pedals or cranks. The Point One Podium pedals helps give a little bit extra ground clearance with their low profile pedal design.



(click to enlarge)

The bike pedaled decently well and low speed chatter was erased nicely underneath the TR450. Big hits also were handled nicely on the TR450, as it has some ramp to the end of its travel. The TR450 liked a calculated line in rough terrain best but is certainly capable of some plowing as well when needed. I felt like I would've liked the tr450 to sit up in its travel a little bit more during riding. Looking back, running a slightly firmer spring could've possibly helped this but then you also have the adverse effects to consider as well.



(click to enlarge)

The cockpit area felt roomy and didn't feel too tight. This helped getting the right body position on the TR450. It was easy to get aggressive on the bike as its playful nature urges you to "get after it" so to speak.

Possible Improvements

Better rear axle system – The axle uses one of our favorite systems where the non-driveside has a pinch bolt that clamps down on the axle. However, on the TR450's design, it doesn't pinch the axle hard enough. We found our axle would sometimes loosen a little bit over a hard day of riding. Additionally the nut that sits inside the frame on the driveside to screw the axle into would be better off if it were secured to the frame (with an allen bolt) instead of being able to come out loosely, as the nut can push out while installing the axle.

Linkage geo chips are nice but aren't the easiest to change compared to some designs. A good bit of hardware needs removed to get access to modify it.

Lower shock bolt access – To check the bottom shock bolt requires removal of the front shock bolts and two allen wrenches. If they had a replaceable chip in the lower linkage that allowed the lower shock bolt to directly bolt into the chip from the non drive side it would eliminate some fiddling around the driveside crankarm getting in the way as well as not having to use two wrenches to check the lower shock bolt.

The headset top bearing design worked fine but we'd prefer a zs44 style cup instead on top. This would give some peace of mind with the top headset being secured by a cup (as well as the frame) and would let users run an angled headset if they wanted.

Lightening up the frame a bit would be nice if they could keep it durable. Perhaps they could go to forged

linkage piece to help save some weight or other weight saving reductions without sacrificing on durability too much.

Conclusion



(click to enlarge)

The TR450 is a solid downhill bike in our opinion. It's a simple no nonsense kind of bike. There are certainly a few things that could be improved on the bike but overall the TR450 has a lot to offer. Whether you're a racer or just a general rider looking for a new bike with modern advancements, the TR450 can fit the bill nicely. The Transition Racing team of Jill Kintner, Bryn Atkinson, and Lars Sternberg has had great success aboard the TR450 this year. From the geometry to the suspension, Transition has a solid offering in the downhill bike market.



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