



TRACK TEST

IMS/ROLL DESIGN

TRX440 EX

A full race Honda thumper

By the Dirt Wheels staff

□ When Honda first came out with their TRX400 EX we knew it would only be a matter of time before engine and suspension kits were developed for it. After all, the engine on the TRX400 is derived from Hondas off-road motorcycle, the XR400 dirt bike. Since there are already several engine kits manufactured for that bike, why not get one to work on the new quad? Sure enough, what started as a slow stream of products for the hugely popular 400 EX has turned into a deluge of trickery to make it even more competitive.

IMS BIG BORE KIT

IMS Products introduced a 440cc big bore piston kit for the Honda XR400 dirt bike three years ago. The IMS 440 kit soon proved itself on racetracks and courses all over the US and its success led the company to make a version for the high-performance ATV market.

"We're getting into the ATV market in a big way," IMS's Marketing Director Scott Wright told us over the phone. "The 440 kit for the EX is just the first step. We will also be making a lot of other unique products for this high performance quad. Right now we have a larger oil reservoir, an oil breather for the crankcase vent, the big bore kit, hotter cams, and head porting for the 400. We also plan on introducing several other trick parts and performance-enhancing products for all the Honda racers. Doug Roll of Roll Designs is working with us to come up with the ultimate high performance 440 EX. Why don't you guys come out to Glen Helen Raceway and check out our trick IMS/Roll Design 440 EX? You won't regret it!"

Trick Hondas? You don't have to ask us twice. We met up with Scott Wright, C.H. Wheat (the owner of IMS Products), Doug Roll (owner of Roll Design) and GNC star Travis Spader at Glen Helen Raceway to see for ourselves just how fast and good-handling their hopped-up EX was.

FULL RACE QUAD

The *Dirt Wheels* wrecking crew arrived bright-eyed and bushy-tailed at the immaculately groomed Southern California racetrack to ogle this new creation of IMS and Roll Designs. We were not disappointed. Visually the machine is a stunner. New design Douglas aluminum rims set off the look and a large capacity IMS accessory 4 gallon fuel tank gives it a threatening and unusual look. Not to mention the mega-trax Axis shocks and immaculate Roll A-arms on the front end.

"Throughout our R&D process on this thumper engine kit, IMS has been able to use the Honda 440 kit for everything from National MX races to Hare Scrambles, Cross Country and Desert events," stated Wright.

"Our TRX440 kit consists of a cylinder sleeve, piston, rings, pins and circlips and includes head and base gaskets, all for \$285.60. On this particular machine we have also fitted a new high performance cam (\$153) and modified the head to get better flow (\$250)."

The next item to get replaced was the stock air filter with a K&N (\$62) taking its place. This gets more air into the engine and helps it breathe. A trick item that graces the left-side of the engine is an IMS oil collector/separator that helps return oil spit out of the crankcase ventilator back to the crankcase.

Duncan Racing supplied one of their new Double Barrell exhaust systems to extract even more torque with the IMS big bore kit. Another item still in the prototype stage is a replacement oil tank for the 400 that will increase capacity by 1-1/2 quarts. While the larger oil tank on the IMS 440 was made from aluminum, the actual replacement unit will be a much sturdier steel version.

Since oil is the life blood of any big bore four-stroke, and heat the enemy, increasing the amount of oil helps cool the engine. IMS feels a larger capacity oil tank is essential with the bigger bore 440 kit. The stock carb

was utilized with a Dyno Jet kit (\$54.95) installed for optimum performance.

SUSPENSION PACKAGE

The stock front suspension was replaced with Roll Design's new 1999 Lobo suspension assembly. This immediately increased the stock travel by 1-1/2 inches. The Roll kit includes new +3-inch A-arms fabri-



The Doug Roll front end adds 3" to the width on the EX. It has adjustable camber and allows you to run the extra-tall Custom Axis shocks that add 2" of travel to the front end. Note how the Roll front end stays close to the ground under acceleration.

cated from 4130 chromoly, with camber adjustable top arms. Stainless steel tie-rods are included, as are the outboard upright adapters, pivot pins, bearings, and a set of triple-rate compression- and rebound-adjustable Custom Axis shocks. The price for the complete front end assembly including shocks is \$2400. While that sounds steep, it does include the price of the Axis shocks and is not out of line for a top-of-the-line, high quality package such as this. Who ever said that racing was cheap anyway?

On the back end, the stock rear swingarm was modified slightly by Roll Design and powdercoat painted red. It came with a single-rate compression- and rebound-adjustable Custom Axis shock using the stock linkage of the 400 EX shock. Travel

TRX440 EX



Hook-up and power delivery on the IMS 440 kit were phenomenal. It bursts out of corners with massive tire-shredding torque. The hot setup is to shift early and let it pull a gear high out of the turns.



The IMS 440 engine kit consists of bigger bore piston and resleeved cylinder, a hotter cam, ported head and Duncan Racing Double Barrel exhaust system.

was increased by one inch. An accessory +2-inch rear axle, rear axle carrier, and anti-fade rear disc brake hub were provided by Roll Design and installed on the machine. Braking came up with replacement brake pads and rotors for the back of the machine. Steel brake lines replaced the stock rubber units to alleviate potential swelling problems due to heat build up.

DRIVE LINE & MISCELLANEOUS PARTS

One of the most unusual looking items on the machine is the 4 gallon IMS plastic gas tank. It came with a dry-break gas cap (a device that allows for rapid tank refilling) and has almost a full gallon and a half more capacity than the stocker. It fits in the stock tank's location without modification and has a large rounded upper section that sticks up quite high. While it might look that it would cause problems with a riders movement, we found that it was easy to wrap your legs around the middle section of the tank and it actually made it easier to hang on.

The stock gearing was replaced with a 16 tooth counter shaft and a 34 tooth rear Rental sprocket and Tsubaki 520 O-ring chain. A set of prototype Douglas aluminum wheels came with the machine. These are their all new wheels with a built-in reinforcement ring with extremely strong, rounded edges. The wheels were mounted with 22x7-10 ITP Hole-shot knobby fronts and 20x11-8 rears.

The stock 400 EX steering shaft was replaced with a +2 Chromoly Roll Design steering shaft with anti-vibration mounts. A set of Answer Pro Taper (CR high bend) handlebars were installed on IMS/Emig triple clamp mounts with a Honda CR 250 twist throttle and clutch perch. Motion Pro

cables replaced all the stock cables. A Roll Design shock-type steering stabilizer was added to reduce rider fatigue and arm cramping.

TAKING IT FOR A RIDE

The IMS monster 440 kit and Double Barrell exhaust give the machine a distinctive bark out on the track. It is not overly loud or offensive but clearly stands out from the stock machine's exhaust note. The 440 kit puts out tons of nail-ripping torque from the absolute bottom of the powerband all the way to the knob twisting top-end. Before taking the machine out on the course we watched top pro GNC racer Travis Spader put in some amazingly quick laps aboard the machine.

The longer Spader rode it, the faster he went. By the time we were able to flag him in he had scorched increasingly quicker lap times that were comparable with some of the top pros who race here with their modified 250R's. Of course, since Travis started his career aboard a 4-stroke he was familiar with the drill it takes to go fast with a four-stroke. Rev it up but shift early just before it peaks out, and take advantage of all that ground-shredding torque to explode into the next higher gear. After a few stops for jetting changes (primarily richening up the main jet) the 440 kit started working even better.

With the larger displacement engine, the increased oil capacity offered by the IMS oil tank is a good idea. The large capacity gas tank and dry break are a great idea as well, especially if you race in GP's or long-distance events where tank refills are critical.

We particularly liked the look and feel of the new Douglas aluminum rims that were mounted on the 440 EX. These are extremely trick looking and will certainly become a must-have item for racers and high performance enthusiasts who ride in rocks or rough terrain.

Complementing the stronger and faster 440 engine, the widened Roll Design front end and Custom Axis shocks gave the machine a smooth and predictable feel everywhere on the track. We especially liked the performance over jumps, bumps and any obstacle you chose to hit. The wider front end prevents head shake and allows you to attack the corners much more aggressively.

The longer travel Axis shocks, with their wider range of adjustability, give the suspension a much more plush feel through the whoops and over the rough stuff. It allows the rider to sail across terrain that would have jarred your teeth loose on the stocker. We particularly enjoyed sailing off of the flat-out table top jumps located on the track. It seemed there was no limit to how fast or hard you could hit these aboard the 440.

The only negative side to the Roll front end is the weight. With a total of 3 inches more width than a stock front end, it does add a bit more weight up there. A heavier front end makes it more prone to staying on the ground (which is what you want your front end to do, says Doug Roll). Well, we liked the traction and control of the Lobo front end but wished it was a little easier to get it to wheelie.

It did however track extremely well and was very predictable. Our lap times were substantially improved over what we could do on our stock suspended machine. So maybe it is better to have the front end on the ground?

OVERALL CONCLUSIONS

The IMS/Roll Design 440 EX is the fastest, best handling modified Honda 400EX we have yet ridden. It has knuckle-whitening torque, outstanding handling and state-of-the-art suspension. We feel it has more than enough power to be competitive in the pro ranks, even against modified TRX 250R's.

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