

# IMS HONDA 450R ALL-AROUND SPORT QUAD

Track, trail, and dune mods for your Honda TRX

*By the staff at Dirt Wheels*

Ever wonder what it would be like to throw a leg over one of those flashy-looking sport quads you see in the ads? You know the ones. A rider is pitching it sideways into a turn, spewing rooster tails twenty feet high over the top of riders heads, and looking like it's got more horsepower and handling than anything you've ridden in years. What would it be like to actually ride one of those machines and see for yourself what they're actually capable of?

#### DOING THAT

Well, while we can't get you physically on board that machine for your own private test session, we can do the next best thing, we can do it and tell you what it's like. No holds barred, take no prisoners, and no bull.

#### IMS AD MACHINE

One of the machines we've all seen in IMS's advertising is their Honda 450R. It has every trick part, hop-up mod and glitzy accessory you can imagine bolted onto it. Our resident test experts called up the IMS execs about testing the quad they use in their advertising program, only we wanted to set it up for three very different environments. Each setup would only require a change of wheels and tires, as well as subtle changes to shock pre-load and ride height for the various off-road endeavors.

We secured the 2008 model Honda 450R that IMS used for their ad shoot and set about modifying it first for motocross, then for dune, and finally for trail use. After dialing in the shock settings and changing the tires, we rolled the machine out and put it through its paces in each differing terrain type.



# IMS 450R



Steve Valli, one of the R&D guys for IMS/Roll Racing, puts the machine they use in their ads to good use in the dunes.



Making the front and back ends much wider and better working was accomplished by installing a set of Roll Design gull-wing A-arms and Elka Elite shocks.



ITP's slick looking SS Series wheels, along with their Sand Star tires gave our machine solid hook up in the dunes. The Duncan Fat Boy 4 exhaust picked up the powerband, especially off the very bottom and gave us more top end.

## HERE ARE OUR CONCLUSIONS

**MOTOCROSS TRACK:** The power modifications on our Honda 450R consisted of a Duncan Racing Fat Boy 4 exhaust and Uni air filter. This gave the machine a hard-hitting low to mid-range power increase, with just enough over-rev to allow you to blast it into a corner and pull that extra bit before getting on the binders hard. The brakes themselves remained the same for all three terrain types and consisted of Galfer Front wave rotors and Galfer steel braided brake lines.

Our only power complaint would be a slight bit of softness on the power in the very middle of the powerband. Since the power remains the same for all three terrain applications, dune, track, and trail, the primary dif-

ferences are the tires and shock settings on the machine.

We set up our Elka Elite shocks for the lowest ride height we could get to keep the center of gravity low on the machine. This lets you blaze through the corners and turn on a dime on a tight, twisty, technical motocross track. The tire choice for this environment was a set of ITP T-9 beadlock aluminum wheels with their all new Quadcross radial Holeshoot MX tires (22x-10-9 fronts with 20x10-18 rears). These tires have phenomenal hookup and traction. They also seem to wear much better than earlier Holeshoot radials we have used. They are a softer compound, but hold up on the track for a longer period.

With the lower ride height and radial knobbies, this quad turned



A set of Universal Solex Handlebars (\$69.95), PowerMad hand guards (\$59.90), and IMS/Roll steering stem (\$349.95) graced the front end of the machine.

Dicing with other riders on a race course is where you find out exactly how good your machine performs. ➤





**We took an IMS/Roll modified Honda 450R and by simply switching tires and wheels and a few other mods, were able to go racing, trail riding and duning...all on the same machine.**

extremely well, and with the addition of the Elka shocks, linkage, and roll design +3 inch wider A-arms and +4-inch wider RPM Dominator rear axle, this machine corners and turns like it is on rails. It gets an A+ for handling and suspension, a B+ for overall power, and A+ for braking.

**DUNES:** Our major change here was installing a set of ITP's Sand Star tires (21x7-10 fronts and 20x11-10 rears) and their new SS alloy rims. These tires work great in the dunes, particularly on steep sidehills, offering a good bite and great traction. The tradeoff is that they are a bit heavy, and take some of the edge off the Honda's power hit in the sand.

## IMS 450R

The mid-range powerband softness is magnified in the dunes, but as long as you keep the rpm up, it pulls strongly, and will roost out of any turn to your heart's content.

Since we were running a stock engine with only a pipe and filter mod, we could get away with running standard pump fuel. But if we wanted more horsepower, we would bump up the engine compression to get it to run a bit stronger. Then we would opt to use race fuel instead of pump gas, to allow the higher compression engine to get our mid-range powerband kicking again.

We raised the ride height from our motocross setting of 7.5 inches to 9.5 inches for the dunes. This gave us a bit more ground clearance and made the machine roll through the deep sand whoops a bit easier. Overall, we gave our IMS dune modified 450R an solid B for power, but an A for handling and suspension, and A+ for braking.

**TRAIL SETUP:** Our next stop after the dunes was to see how the IMS TRX450R performed on the trail. After installing a set of ITP Hoeshot GNCC tires with ITP T-9 beadlock wheels, we rolled the machine out for its final test runs. Our trail setups on the west coast are quite a bit different from east coast woods rider settings, so if you ride where there are lots of trees, roots, and slippery rocks, you might want to try some slightly different settings.

The ITP GNCC Hoeshot tires and T-9 wheels we ran would work in both



**ITP's rugged GNCC Hoeshot knobby was the tire of choice for our trail and desert riding sessions. If you ride motocross only, their Quadcross MX Pro would be best.**



**A QuadTech seat kit (\$170) is a great way to make your seat as plush as your favorite Lazy-boy recliner.**

our higher speed desert trail conditions, as well as the tight trails and slippery mud you find on eastern woods circuits. These tires and rims hold up well to abuse and have good wear factors. The sidewalls are thick

### HOW TO SET YOUR QUAD'S RIDE HEIGHT

#### POOR MANS SUSPENSION SECRETS

As the research and development team at IMS contemplated building the perfect all around quad, they were forced to consider that no one set of suspension settings will work in every location for every person.

For example, on a tight technical motocross track you would want a lower ride height to keep your center of gravity as low as possible.

Conversely, on a rugged off road course, you are going to need a much higher ride height to give you the clearance you need to clear the rocks, mud etc. that you may encounter on the course.

Each person is going to have their own personal needs and preferences

when setting up their suspension. As such, we have listed below basic guidelines for each of the three primary ride height locations.

To adjust ride height you will generally tighten the preload to increase ride height and loosen preload to lower ride height. However it is important to remember that when you tighten and loosen your preload, it will affect the compression settings on your suspension.

If you have tightened the preload you will need to soften the compression, and vice versa. You need only adjust the compression minimally but this will make a big difference as you get back on your quad.

To measure ride height, measure from the chassis to the ground with the rider mounted on the machine. You should measure a front and rear ride height in the following locations:

**Front:** Motor mount bolt closest to

the front of the quad (measure from the chassis).

**Rear:** Bolt directly under the rear foot peg bolt (measure from chassis).

**Front:** Ride height should be no more than 1/2 inch or an inch higher than the rear, but no less than 1/4 inch higher than the rear.

#### MOTOCROSS QUAD

**Ride height:** No lower than 7.5 inches and no higher than nine inches (use a lower ride height on tight technical tracks and a higher ride height on more open tracks).

**Dune quad ride height:** No lower than nine inches and no higher than ten inches (remember that as you increase ride height, decrease compression settings slightly).

**Cross country/trails/desert quad ride height:** No lower than 8.5 inches and no higher than ten inches. These are the settings that IMS used to build their all-around TRX450R. •

# IMS 450R

and puncture-resistant, and offer great forward bite and traction.

For our Elka Elite shocks, we raised the dune ride height of 9.5 inches to ten inches. This gave us a bit more ground clearance for large rocks (a common desert obstacle). If we were riding on tight, technical woods

courses, we would lower the ride height to around eight inches to get a better turning, lower center of gravity ride for the suspension.

In the overall power department, for our high speed desert/trail applications, we rated the IMS 450R's power as a solid B+, and were able to make better use of the machine's added zip on the top end. The extended Roll/IMS A-arms are a plus for high speed desert riding but could be a problem for tight woods riders, as the front end would tend to catch any trees. Luckily, the PowerMadd handguards would keep the rider's hands from getting tapped and the slick-looking ASV levers are bendable but not breakable.

While power gets a B+, the overall handling and suspension and braking still rates a A+ rating.

## OVERALL CONCLUSIONS

The IMS Honda 450R that you see in their ads actually is a solid, dependable, and excellent handling sport quad. It looks great, and performs admirably on the track, trail and in the dunes. Since we did not go for the all out power package, but instead focused on making the machine handle and ride much better, we were able to turn faster lap times and go faster than if we focused on making it only a speed runner.



Kevin Gardner came all the way from the big island on Hawaii to ride the IMS/Roll Honda 450R at the Lake Havasu WORCS race. Kevin took a respectable third in the Vet class and liked how well the quad ran and handled.

You don't even have to install the upper end suspension, A-arms and axles to make your Honda better. You can, with a little tweaking of the ride height and suspension settings on your stocker, make it turn and handle better than stock. See the sidebar on setting the proper pre-load ride heights for the different types of terrain and try them out on your bone stocker first.

A simple switch of tires and wheels, along with proper suspension setup, can go a long way in making you and your machine faster in any terrain environment. Try it out and see for yourself. □

## PARTS & PRICES:

Roll Design A-Arms.....	\$1395.95
Elka Elite Edition Shocks Ft.....	\$1465.99
Elka Elite Edition Shock Fr.....	\$820.95
Elka Rear Linkage.....	\$399.95
Elka System 5 Steering Damper.....	\$550
Galfer Front Brake Lines.....	\$119.95
<a href="http://www.rolldesign.com">www.rolldesign.com</a>	
Quad Tech Shock Guards.....	\$100
Quad Tech Plastic Hood.....	\$95
Quad Tech Seat Kit.....	\$170
<a href="http://www.quadtech-atv.com">www.quadtech-atv.com</a>	
ASV Shift Lever.....	\$70
ASV Brake Lever.....	\$75
<a href="http://www.asvinventions.com">www.asvinventions.com</a>	
IMS-Roll Steering Stem.....	\$349.95
IMS-Roll Pro Series Foot Pegs.....	\$199.95
IMS-Roll Pro Series Heel Gds.....	\$179.95
<a href="http://www.officialims-roll.com">www.officialims-roll.com</a>	
IMS Fuel Tank.....	\$274.95
Powermadd Star HandGuards IMS Edition.....	\$59.90
<a href="http://www.imsproducts.com">www.imsproducts.com</a>	
Universal Solex Handlebars.....	\$69.95
<a href="http://www.universalmotocross.com">www.universalmotocross.com</a>	
Duncan Racing Graphic Kit.....	\$129.95
Duncan Racing FatBoy 4 Exhaust.....	\$599
Duncan Racing Reservoir Cover.....	\$14.95
UNI Air Filter.....	\$34.95
<a href="http://www.duncanracing.com">www.duncanracing.com</a>	
ITP T-9 Pro Series Baja Wheels.....	\$400
ITP GNCC Tires.....	\$440
<a href="http://www.itptires.com">www.itptires.com</a>	
AC Skid Plate.....	\$144.95
<a href="http://www.acracing.com">www.acracing.com</a>	
TM Designs Chain Guide.....	\$117.95
<a href="http://www.tmdesignworks.com">www.tmdesignworks.com</a>	
RPM Dominator Axle.....	\$309.00
<a href="http://www.team-rpm.com">www.team-rpm.com</a>	
Galfer Front Wave Rotors.....	\$260.00
<a href="http://www.galferusa.com">www.galferusa.com</a>	

