



TRANSWORLD MOTOCROSS RACE TEST



Our pro tester Pat Foster has raced Nationals and Supercross, both as a factory support rider and as a full-on privateer. Needless to say, he's ridden on suspension packages of all levels. After a long day of testing with RG3 on our 2008 Suzuki RM-Z250, "Thoughtful" Pat came away with all Rob Hendricksen and crew had to offer.

GOOD, BETTER, BEST

RG3 TAKES US FROM ZERO TO HERO

IF YOU ARE LIKE US, you never miss an opportunity to check out a race, either live or on television. If so, you have inevitably heard the same cookie-cutter podium speeches hundreds of times. You know the one about riding my own race and the 20 solid laps; you could probably recite it in your head right now. But aside from the tires getting them off to a great start, the team, and their trainer all being behind them, there is another common thread that usually links the victory speeches; "We've been working really hard with bike set-up all week and came up with some really good settings..." With all the pre-season testing and countless hours at the test track, do you ever wonder what kind of settings the teams can continually be working on throughout the late stages of the season? Well, most teams keep any set-up issues pretty close to the vest, but we have to assume that the majority of the focus has to be geared toward handling. Let's face it, it is pretty common knowledge that the power plants in today's four-strokes are more than adequate for everyone except for maybe the upper echelon of motocross talent, and we even get leaks from time to time that their bikes are too powerful and need to be toned down a bit. Once you've achieved a crisp bark, strong gearing and durable engine components, the majority of the focus has to turn toward putting all that power to the ground.

Everybody who has ever lined up on the start gate, even just for fun, understands the importance of well-tuned suspension. Having suspension set up for your size and ability is critical even if you are just racing on the local level. While the manufacturers do a fantastic job of setting up the production bikes to appeal to a broad spectrum of riders, it is impossible to sell the same bike to a 225-pound Vet Novice and a 145-pound Intermediate and have them both be happy. It's not going to happen. It seems everybody knows that they should have their suspension valved and sprung for their size, but do they know what other options are available beyond the typical valve job and what impact they could have on performance? If the typical consumer had the opportunity and guidance to continue refining their bike once they got their suspension back from the shop, how far would they go?



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We talked our buddy Rob Henrickson at RG3 into taking some time out of his busy schedule to take us through the gamut of different suspension packages he makes available to the public. In addition to operating one of the most successful suspension shops in the country and manufacturing some of the trickiest triple clamps and handling components in the business, Rob is also the go-to guy for American Suzuki's Factory Supercross, Motocross, and Offroad Race Team efforts, as well as Suzuki Fun Center and Suzuki City's Supercross teams. To say that Rob knows his stuff would be a major understatement, but we will say it anyway.

Although RG3 works on all the major brands, for the sake of this test we thought it would be most appropriate for us to use our trusty Suzuki RM-Z250. Rob agreed to set up three different Suzuki suspension packages all valved and sprung similarly for a 185-pound pro level rider. With the stock components and handling characteristics established as a base, the plan was to do back-to-back comparisons on RG3's basic revalve, the Diamond Kit, and the A Kit to compare the performance gained versus the price point. Our test riders have agreed that the Suzuki at a minimum needs to be revalved and resprung for us to race it with a reasonable amount of confidence, which is typically where the everyday consumer stops. While we had Rob at the track, the plan was to get the revalve working as well as possible and then throw on the Diamond Kit. Once we got the Diamond Kit working as well as we could, we would go one step further with the A Kit and see if there is a measurable improvement in our handling characteristics. We felt the best venue to achieve actual race conditions with rutted corners, choppy acceleration bumps, and sharp braking bumps would be a busy Wednesday practice session at Perris Raceway, which delivered exactly what we were looking for.

STOCK SETTINGS

The majority of our testing staff lean toward the heavy side when compared to most riders and therefore don't typically fit into the manufacturers' core target group when it comes to stock suspension setup; the Suzuki RM-Z250 falls into this category. In stock form, the RM-Z is extremely soft for larger riders. The fork's initial stroke is light and continues to be so through the mid-stroke where it progresses quickly into a harsh spot about three-quarters of the way through the travel. Bottoming resistance is a little on the soft side as well. The result is that the bike falls through the typically plush, initial stroke and rides low in front which tends to give the front end a shaky, vague feel. When you hit any significant chop or braking bumps the bike quickly hits the harsh point in the stroke and then quickly bottoms out, making the bottoming sensation a little intensified. While the rear end is soft, as well and suffers from similar characteristics, the issues are magnified in the front. In the small bumps the rear end has a tendency to wallow and exudes a somewhat spongy ride. As the bumps get larger, the shock has

a spike to it in the bottom of the stroke which transmits a lot of feedback to the rider. In many cases the bike loses contact with the ground, which hinders both acceleration and braking action.

REVALVE

Rob told us before we rode with the RG3 revalved suspension that the goal was to obtain a setting that held the bike up higher in the stroke initially to utilize more of the travel, smooth out the transition through the mid-range, and



then increase the bottoming resistance to prevent the harsh metal-to-metal sensation. To do so, he changed out the .44 fork springs for heavier .46 springs, added low-speed damping, added high-speed damping, and alleviated the mid range. The installation of the RG3 Valve (or the Smart Valve as it has come to be known) aids in allowing a wider range of versatility when it comes to adjustment with speed sensitive properties. The shock retained the stock spring rate but internal valving modifications were made to mirror those done to the front end.

On the track, the improvements made to the overall handling were huge, to say the least. Even though the fork springs and the majority of the valving had been stiffened up significantly, the suspension action was much smoother and more forgiving than the stock settings. The beginning of the stroke was very plush on the small bumps and had a very controlled progression through the entire range of travel. The harsh lock near the center of the stroke was gone and bottoming resistance was not a concern. It felt as though we were riding a completely different bike. The bike was much more positive, especially in the braking bumps. The vague wallow we experienced while entering corners was gone as the bike kept much better contact with the ground, allowing braking action to be much more productive. Accelerating out of the tight, choppy ruts was also much more effective as the rear end seemed driven into track clawing for traction, and hard hits off of the big jumps were easily soaked up with no metal to metal bottoming. It was very clear to us why the average consumer would look no further than the standard revalve. We were much more confident attacking the whoops, the bike settled well into and coming out of corners, and both ends simply shrugged off some of the hardest hits we could throw at them.

Revalve Price - \$649.95 Not including wear parts, springs, and oil.

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DIAMOND KIT

To be totally honest, we were predisposed to the idea that testing the Diamond Kit was basically going to be an unnecessary step in our day of testing. We were excited to assess the difference between stock settings and the standard rebuild because we expected to feel a huge improvement, and were not disappointed. We were also chomping at the bit at the opportunity to bolt on the A Kit because, let's face it, who wouldn't jump at the chance to bolt Ryan Dungey's suspension onto their RM-Z and spin a few laps? But other than having a trick factory look to it, the Diamond Kit didn't seem very intriguing. RG3 calls it the Diamond Kit because aside from receiving identical valving and springs as the standard revalve, they also add a product called DLC to the slide surfaces. DLC stands for Diamond Like Coating which is a black finished, friction coefficient that is over five times slicker than the sliding properties of chrome, and much harder to boot. In addition to the factory exterior look on the forks and the internal "Smart Valves", the rear shock receives a lighter, aluminum adjuster with larger thread surface and a wider engagement area of the rings. We basically saw it as the same stuff we just tested with a little bling for good measure. We were wrong.

Before we even started the bike, we could feel a difference with the DLC. Just sitting on the bike and bouncing on the suspension, the bike seemed to glide through the stroke like silk. Out on the track was the same sensation; we had all the great attributes of the revalve settings, but everything felt much more supple. Rob had to assure us that these were indeed the same valve specs because it felt quite a bit softer than the last set. It was not soft in a bad way, though, we still had great progression and fantastic bottoming resistance; it was just the smoothest action we have ever felt. There was absolutely no binding or seal drag at all. In fact, even though the settings were the same as the last set-up, we had Rob add a couple clicks of compression to the front end and one to the back to acquire the same feeling as the standard revalve.

We brought the bike back in totally stoked on the DLC and excited to try the A Kit when Rob threw us a little curve ball; he wanted to quickly swap out the stock 21.5mm offset clamps in exchange for RG3's 20mm offset, four post, rubber mount design. We have been big fans of RG3's clamps for years and while we were pretty anxious to get to Dungey's stuff, we thought it



would be cool to do a quick back-to-back clamp comparison and do a few more laps with the DLC. As impressed as we were with the performance gains from the standard valve work to the DLC, the clamps raised the bar that much further again, if not more. Within just a few corners on the track, it felt as though we were on a completely different bike again. The 20mm offset clamps are incredible for giving the front end a planted, connected feel. We expected to feel a difference in the tight rutted corners, which we did—the bike turned on a dime, but the front end just felt grounded so much better even in the sweepers and down the straights as well. In fact, our corner entrance speed felt like it had increased significantly because the idea of the front end washing out was not a concern at all. Approaching a corner on the outside of the straight-away and then angling in toward an inside rut at the last minute was no problem, as it felt like we were riding on Velcro compared to the stock clamps. Adding to our confidence level was the fact that even with the tighter offset we did not lose any high-speed stability, which can sometimes be the trade off for tighter turning. The combination of the supple feel from the DLC and the vibration absorption of the four-post rubber clamps made riding our RM-Z an absolute pleasure. While we were still anxious to try the A Kit, we really wouldn't have minded spending the rest of the day riding with the Diamond Kit.

Diamond Kit Price - \$2,495 Not including wear parts, springs, and oil; Triple Clamp - \$309.95.

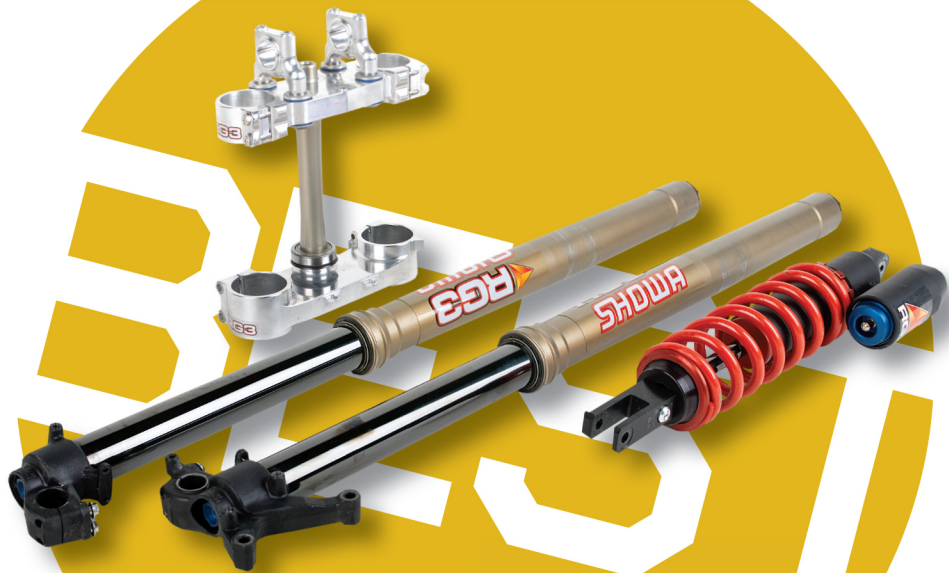
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A KIT

While the Diamond Kit is basically stock components with trick internals and cool coatings, the A Kit is an actual, full-on suspension kit. The stock 47 mm forks are replaced with factory, 49mm cannons. The stock triple clamp is not an option and needs to be replaced with a set of RG3's 49mm clamps to accept the new, larger fork diameters. Although the valving characteristics are similar to the other two settings, the forks are dramatically different by design. Aside from the size difference, which offers more rigidity, the fork internals are manufactured to much tighter tolerances and specifications from the factory. While the overall valving spec is similar, the velocity control of the fluid is divided up into more sections than the stock components, offering more range of adjustment. The fact that the fork is divided into more segments means there are additional circuits that can be manipulated over a broader spectrum to fine-tune the action.

The shock is much more complex and intricate in design over the stock settings, as well. The A Kit incorporates a larger compression adjuster with the circuits broken up in more sections like the front end. Much like the forks, the fluid velocity can be manipulated over a wider range of adjustment, which allows more opportunity to fine-tune action in specific segments of the stroke. Another cool feature is the clicker-type preload adjuster rather than the jamb-nut design of the stock components.

After the Cadillac-like ride of the Diamond Kit we really didn't know how the A Kit could be much better. Once we started putting in a few laps, though, it wasn't how much better the suspension felt that got our attention, it was how much different the entire bike felt on the track. Maybe a more accurate statement would be what we *didn't* feel on the track. Where the Diamond Kit exuded a plush, supple feel, the A Kit was more of a consistently dead, no non-sense feel.



The front end feels considerably more rigid with the big forks and beefy clamps, but it is a solid, secure, rigid feeling. The small imperfections in the track surface that are normally transmitted through the bars were gone. Big landings or sharp braking bumps that would normally make you cringe and brace yourself for a significant hit were absorbed easily. Typically, after a hard impact, the bike will rebound violently, but the rebound effect was equally dead. The bike felt like you were riding with armor on. We hate to use the analogy of a tank but it just plowed over everything we threw at it without bottoming or rebounding much at all. This kit is ready for battle; it felt as though casing a Supercross triple wouldn't be a problem, almost as if the bike was daring you to charge harder. We came to the realization that while the Revalve Kit and the Diamond Kit would be a huge benefit to anybody that rides even on the recreational level, the A Kit is geared for and would be fully appreciated by the serious racer looking for every possible advantage available to them. While it is difficult to really describe how well the A Kit works to someone who hasn't experienced it, we can say that it handles bumps unlike any production suspension we have ever encountered.

A Kit Price - \$7,500 Not including wear parts, springs, and oil.

CONCLUSION

What our day of testing really confirmed to us was that for the price point, having your suspension revalved for your style and weight is hands down some of the best money you can spend on your bike. Heck, if you own a four-stroke, you would be hard pressed to even bolt on a pipe for the same price and we guarantee you won't gain nearly as much in performance. We were really surprised by how much smoother and plusher the Diamond Kit made the overall ride and how the addition of the RG3 20mm offset clamps raised the bar even further. In fact, we would probably have to rate the clamp performance right up there with the gain achieved by revalving the stock settings—it's that good! Although \$7,500 sounds like a big chunk of change to be spending just on suspension for the A Kit, if you were to ask anybody who has ever lined up for a 35-minute National moto how much they would pay to have factory suspension, we are pretty confident that they would gladly pay double in a heartbeat. Overall, we were very impressed with all three packages and want to thank Rob and the gang at RG3 for spending the day testing with us, his mechanics for swapping out parts, Rick Johnson at Perris for letting us test at the track a little late, and did we mention how well our tires hooked up? 🍀