

## Gsrx 600 Gsrx 750 Gsrx 1000: 2005 - 2006 - 2007 (K5, K6, K7)



### SUZUKI MOTORCYCLES GSX R 600, GSX R 750, GSX R 1000 Generation 7: 2005-2006 (K5, K6)

#### Gsrx 1000 K5, K6



Similarly, the new swingarm uses a combination of cast and extruded pieces, and it is designed for selective flexibility for improved control while the bike is cornering.

The right side is specially tucked in to make room for the exhaust system.

Because, as Mr. Yokouchi maintained from the first glimmer of the

**Suzuki Gsrx 750's** development, weight is the enemy, the new **Gsrx 1000** was worked over from stem to stern in the search for do-nothing weight.

The frame accounted for 2.4 pounds; the wheels, a pound; the engine, half a pound (even the cylinder-head bolts went on a diet); the battery, a pound. In the end, the new **Gsrx 1000 (k5, k6)** steps into a new open-class power play at 366 pounds dry.

That's 4 less than the 2003 bike and 9 under the original **Gsrx 1000 k1**. The early press reports from the **Suzuki Gsrx 1000's** launch at Phillip Island, Australia, were glowing. From Motorcyclist, Tim Carrithers says: "After looking at pictures of the thing for the last six months, two things are clear. It's better looking in person, and it's small. Imagine an angular, 7/8-sized translation of the '04 bike. In every salient dimension but horsepower, there's less to it this year than last. Armed with the sort of power delivery you'd expect from an Ohio-class nuclear submarine, there's enough thrust to cruise around the track without leaving the relative comfort of fourth gear."



Cycle World's Don Canet reported from Australia, "The first thing you notice when settling into the '05's saddle is that the bike is significantly more compact than before." Of the new engine's character, he says, "Broad and linear best describes the torque spread of the new **Suzuki Gsrx** mill. " And, summing up, he continues, "I have no doubt that the **Suzuki** has the Kawasaki Zx 10 R covered in terms of handling composure, even when banging down through the gears into a slow corner."

At these elevated performance levels, composure is key in breeding confidence that's tough to beat."

Around the same time the journalists got their first taste of the new **Gsrx 1000**, its mettle was proven on the racetrack. It won the first two races in the 2005 World Superbike calendar, at Qatar. Riders Troy Corser and Yukio Kagayama made it look easy, with Corser four seconds in the lead when rain shortened the second race. After promising performances with the previous-generation **Gsrx 1000** in WSB, the **K5** model's dominant performance in its first two races was a genuine breakthrough.

On American soil, Yoshimura **Suzuki** rider and five-time AMA Superbike champion Mat Mladin dominated the Daytona event, shortened to a sprint race from its traditional 200-mile format. Though quick to credit the team for his success, Mladin says, "Both the Yoshimura **Suzuki Gsrx 750** and **Gsrx 1000** motorbikes were and still are very competitive. We have had great success on both bikes. We won three AMA Superbike titles on the **750**, and so far, we've won two on the **1000**." The unspoken belief is that number six will come if the early form holds.

As much as **Suzuki moto** loves to win championships in pure racing forms, it was ecstatic to win the first Superstock race of 2005 with rider Vincent Haskovec. Aboard the Team M4 EMGO **Suzuki**, he managed to beat Team Yoshimura rider Aaron Yates and Jordan Motorsports rider Jason Pridmore for a **Suzuki** takeover of the podium. Second-place finisher Yates said, "It's a long championship, and it's great that **Suzuki** swept the podium. The **Gsrx 1000** is definitely the best bike out there."



For **Suzuki's** engineering staff, this result was incredibly satisfying as it proved the performance of the bike in near-stock form and, once again, validated the concept of transferring race experience and know-how to the production models.



Not only did the extensive engineering changes that brought the new **Gsrx 1000** make it a better street bike, its early performance in **2005** proved it a great race bike, right out of the crate.

**Yoshimura Suzuki** rider Ben Spies finished fourth in the Superbike race at Daytona and fourth in the **600** cc Supersport race.

He moved up to the Superbike squad for 2005 after three years in the AMA Supersport, Formula Extreme, and Super stock classes; he was the 2003 Formula Extreme champion.

"I can't imagine a better bike to make my Superbike debut on than the **Yoshimura Suzuki Gsrx 1000**," he says. "The bike makes me feel comfortable and fast and almost invincible.

The level of development from Suzuki is amazing.

The engineers in Japan don't just stop at some given time.

They are constantly coming here to the U.S. and acting as a support base at our tests and races. They listen to everything we have to say and really pay attention.

My crew is welcome to ask tech support questions day or night on the Internet. I can't say enough about **Suzuki Japan** or **American Suzuki**."

To fully appreciate the relentless march of technology and the hard work of **Suzuki's** engineers, you need to remember this: the original **Gsrx 750**, a gobsmacking revolution in weight and power, the undisputed lightweight of sporting **motorcycles**, was, despite dropping jaws all over motorcycling, nearly 30 pounds heavier. And, with 80 rear-wheel horsepower, almost exactly half as powerful.

## Development at Suzuki



Refinement of the next generation of **Suzuki Gsrx** will, surely, be at a breakneck pace, but it will nevertheless follow essentially the same path as that of the new **Gsrx 1000**.

bike and then works with product planning to figure out where the bike needs to go in terms of development. Then there are heads of engine and chassis engineering for the project, as well as styling designers and color designers.

After initial conceiving, which takes place between the project leader and engineering, the chassis and engine teams work independently on their specific tasks. Their goals are easily imagined: less weight, more power, better handling.

They are, however, kept connected through the management levels in engineering so that the solutions are closely meshed. A slight improvement in one place - say, a reduction in cylinder height - is immediately capitalized upon by the chassis engineers.

During this phase, the motorcycle begins to literally take shape.

Depending upon the changes envisioned, a new chassis may be tested with the existing engine or a new engine design may be fitted temporarily to the current chassis.

This happens well after the engine has seen many hours on the dyno, of course, or after the chassis has been through a preliminary review. These prototype mules are carefully camouflaged, but the fact that **Suzuki moto** can carry out much of its development in private at Ryuyo helps tremendously.

Many tasks take place simultaneously to keep up with the ruthless development schedule. For example, the engine design might start on durability testing while the quest for more power-or improved drivability-is still ongoing.

If there are big changes, the tests might have to be done again, but it's likely that at least some of the parts will have been proven, thereby simplifying the remaining tests. Like most manufacturers, **Suzuki's** engineering teams will run the engines and drivelines nearly to destruction, and sometimes beyond, to prove their durability.

**Gsrx** line is well proven, and like any good race team, the development riders have their notes and data from previous bikes to start from. In other words, they don't have to reinvent much when a new model arrives.

Through testing and experience, they know the approximate spring and damping rates, for example, and they appreciate that certain changes in chassis geometry or weight distribution will have certain influences on handling.

Atsushi Murata and Yuichi Nakashima are the lucky men whose job it is to pound around Ryuyo, day after day, on fabulously quick and competent **motorcycles**. Their work is, as you'd expect, methodical. They will test various suspension setups and rate them on a graduated scale.

They will try different brake configurations and rate them.

They will romp around the track and sample different injection maps and rate them. On and on it goes, working through the matrix of possibilities, coming to conclusions about the bike you will someday own. Any good war tales?



They look at each other. "We almost always agree," says Mr. Murata. Perhaps most interesting is that, after all the data collection, computer simulations, and dyno time, it comes down to these unprejudiced men to decide what works best. And it's not just them.

Much of the development happens behind the gates at Ryuyo, but final settings are determined after riding on other tracks and on the street.

For the **Suzuki Gsrx** series, the bulk of the development happens in Europe.

The bikes are brought to the U.S. before the official launch to double-check that they work well on American roads. At that point, however, much of the development is done, and the changes are minimal. "Normally, the change is only to the recommended suspension settings," says Mr. Murata.

This entire process-development of technology, initial testing, production testing, durability testing, and, finally, test riding to figure out if the product is as good as the numbers say-all has to take place at an accelerated rate. Starting with a good platform helps the process; beginning anew each generation is for other manufacturers with much larger engineering staffs.

Indeed, **Suzuki's** engineers and product planners-safe to say, everyone involved in **motorcycle** development-are intensely proud that they've done so much with a comparatively small staff. That the **2005 Suzuki Gsrx 1000 K5-K6** is such a leap from its celebrated predecessor is testament to their tireless efforts.

Suzuki Gsrx 600-750-1000 K5-K6 photos

