

**2011**

***GSX-R 600***

**TECHNICAL INFORMATION**

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# Introduction



Staying loyal to the brand concept 'The Top Performer', we are always trying to achieve a top class performance with a mixture of the three key elements of Supersport motorcycles - engine performance, cornering performance, and brake performance.

Our solution to ultimately scale up all those performances was to drastically trim down the weight.

In comparison to the current model, we have reduced the weight of the new GSX-R600 by as much as 9 kilograms. This remarkable weight reduction was achieved not only by using one big block of metal, but rather by the dedicated effort of our engineers to review and optimize the rigidity balance of each and every small piece of the machine.

In addition to the weight reduction, the analytical MotoGP technology enabled us to reduce internal mechanical losses and this resulted in stronger acceleration and low-to-mid rpm range torque.

At the same time, the fuel consumption has improved by approximately 10% in comparison to the current model, measured in WMTC mode, Suzuki in-house research.

Also we have made no compromises in our careful selection of the equipment. This model is fitted with race-proven parts such as Big Piston Front-forks and Brembo front brake calipers.

As a result of achieving remarkable weight reductions and further improved engine efficiency, this new GSX-R600 now has superb cornering and brake performance and enjoyable acceleration, as well as improved environmental performance.

Please enjoy the exciting evolution of its overall performance, the evolution of 'The Top Performer'.

## 1. Product Concept

### (1) The Top Performer

A lightweight chassis featuring a compact wheelbase and race-developed suspension. A compact, powerful 4-cylinder engine delivering a real-world demonstration of advanced race-proven technology. The GSX-R600 – designed to be The Top Performer in its class, a total package designed to Own The Racetrack.

### (2) Class-leading performance and improved environmental performance

Compared to the 2010 model, the latest GSX-R600 has a 9 kilograms lighter curb mass, 15mm shorter wheelbase and reduced (by 55mm front and 35mm rear) overhang, as well as approximately 10% better fuel mileage (WMTC mode, Suzuki in-house research) and lower emissions.

We have mainly reduced the weight of the following parts such as exterior components, chassis parts and muffler:

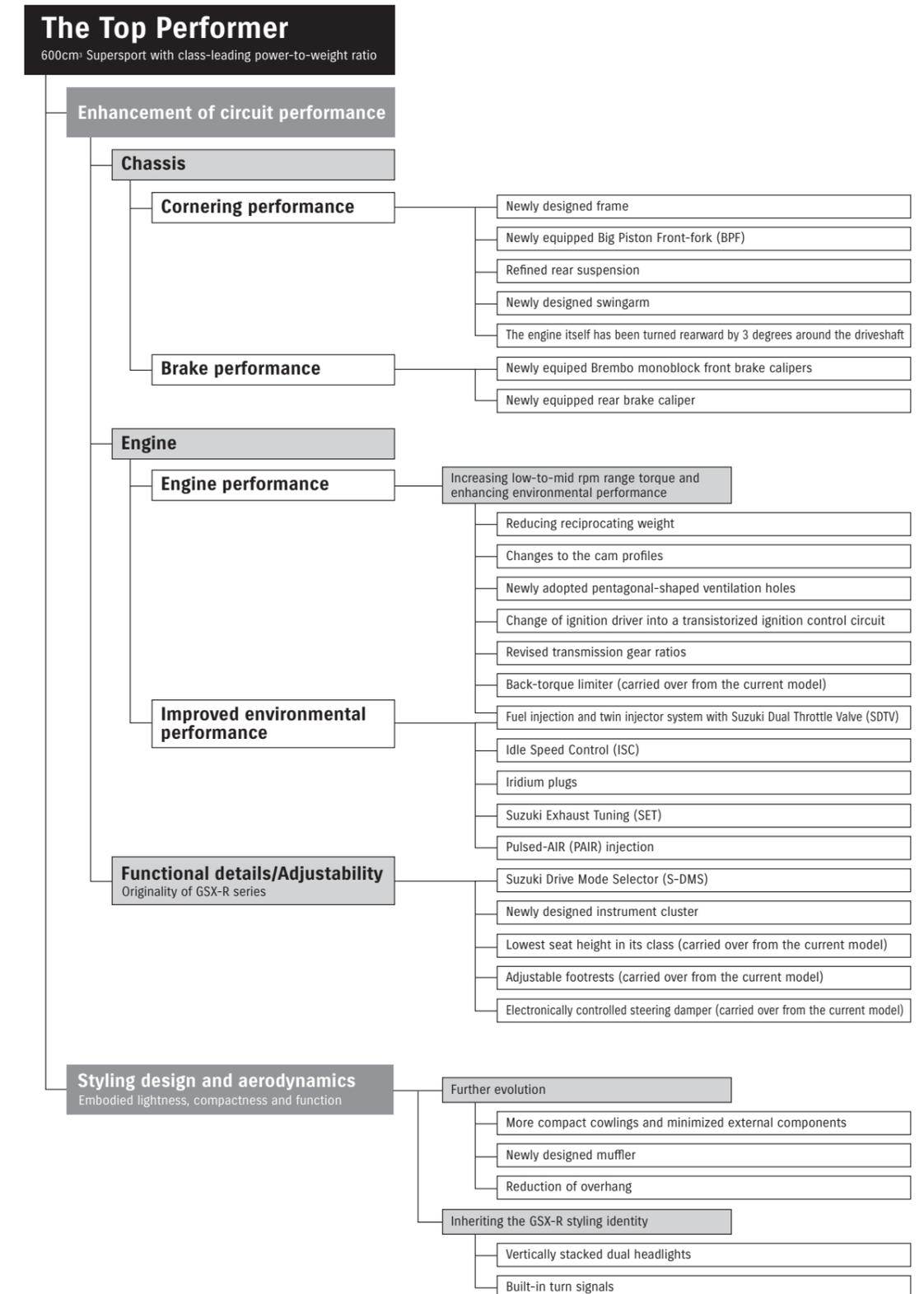
Parts	Weight Reduction
Exterior resin parts	3,400 g
Muffler	1,700 g
Main frame	1,350 g
Front forks	860 g
Rear suspension system	780 g
Swingarm	900 g
Front brake calipers	405 g

Thanks to the 9 kilograms weight reduction and increased peak engine output, the GSX-R600 delivers a class-leading power-to-weight ratio.

### (3) Attractive styling embodying the model's class-leading running performance

The instantly recognizable GSX-R design with vertically stacked dual headlights, built-in turn signals and taillight is now lighter and more compact to deliver the best balance.

## 2011 GSX-R600 Concept Chart



2. Key Features Overview

Feature map of the new GSX-R600

(1) Frame

The newly designed aluminum-alloy twin-spar frame features a lightweight and shorter-wheelbase design (15mm shorter compared to the 2010 model). (See page 10)



(2) Front suspension

The Big Piston Front-fork (BPF) is a new design created with racing feedback. The BPF delivers stable damping performance even during hard braking, resulting in greater smoothness of fork action. (See page 11)



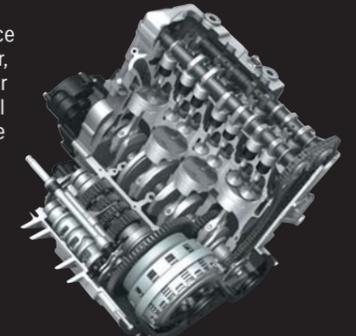
(3) Front brake calipers (Brembo)

The front brake calipers are changed to a one-piece monoblock design by Brembo. The brake system components were reviewed down to details to deliver stopping performance that's not only powerful but also highly controllable with a superb feel. (See page 14)



(4) Engine

Changes to various moving parts reduce mechanical losses and enhance low-to-mid rpm range performance. The engine/chassis performance balance is as refined as ever, thanks to the lighter chassis. The overall engine performance potential is significantly upgraded. (See page 22)



(5) Suzuki Drive Mode Selector (S-DMS)

The new S-DMS allows the rider to select between two engine performance maps to suit the rider's personal preferences in different riding situations. (See page 31)



(6) Muffler

The newly designed muffler is compact and 1,700 grams lighter as a whole. (See page 34)



(7) Rear combination lamps

Distinctive LED combination lamps are built into the tail section that's slim-styled and thin-shaped. (See page 47)



(8) Headlights

The new model inherits the vertical dual headlights, long a GSX-R trademark. They are lighter by 562 grams. (See page 46)



(9) External components

By minimizing the external components, which weight is reduced by 3,400 grams, they contribute for better aerodynamics and wind protection. (See page 44)



(10) Instrument cluster

The instrument cluster is high functional type which is the same as that of 2010 GSX-R1000. The engine rpm indicator which is installed in GP machine is adopted. (See page 37)



# Chassis



## Chassis

### 1. Outline of chassis

#### Features

##### 1. Chassis designed with emphasis on light weight and compactness

- The new components were developed with priority on keeping the weight low.

##### 2. The basic performance has been enhanced thanks to lighter chassis

- Handling performance is enhanced with a 15mm-shorter wheelbase.

##### 3. The suspension and the brake have been upgraded

- Big Piston Front-fork (BPF) is adopted for the front suspension, similar to that on the 2010 GSX-R1000.
- Front brakes newly use Brembo monoblock calipers.

#### Benefits

- The lightweight, compact chassis realizes nimble handling.
- The vehicle/rider mass is better centered by the shortened wheelbase and overall length. Reduction of inertial mass enhances handling performance.



2011 GSX-R600

2010 GSX-R600



## (1) Frame

### Features

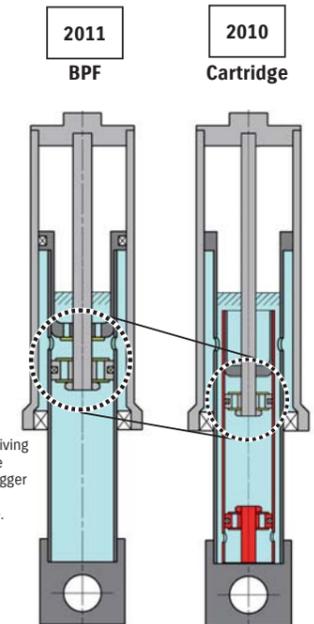
- New cast-aluminum twin-spar frame composed of five sections. The new frame is designed with emphasis on weight reduction.
- Material thickness of each frame section has been carefully optimized (the thinnest section has been narrowed from 3.5mm to 3.0mm), resulting in frame weight reduced by 1,350 grams.
- The seat rail is now narrower, making it easier for the rider to straddle the machine.
- In order to further optimize chassis dimensions, the wheelbase has been shortened by reviewing the layout of the frame and other sections, while keeping the swingarm length the same as the current model.



## (2) Front suspension

### Features

- The front suspension newly features inverted telescopic type Big Piston Front-forks (BPF) made by SHOWA and developed with racing-technology feedback. The fork uses 41mm-diameter inner tubes, and the overall fork assembly, in particular the fork outer tubes, are newly designed. The new forks are 860 grams lighter compared to the forks on the current model.
- The BPF design relocates the fork springs to each fork leg, where they are completely submerged in oil. This reduces fork oil foaming and thus contributes to a more stable damping performance.
- Damping force and spring preload are both fully adjustable.



	2011	2010
Front fork stroke	120 mm	←
Inner tube diameter	41 mm	←

### Benefits

- The new BPF particularly improves damping performance at slow speeds at the start of compression. It features a direct operating feel such as when changing directions through tight S curves, delivers a highly controllable handling performance and also contributes to high stability during braking.
- The new fork makes possible a linear reaction to the rider's intentions, such as when changing directions and leaning into corners.
- The fork provides a smooth operating feel, and makes for better road-surface contact and turn-in performance.
- Overall, the design delivers stable response from the start of fork compression, and makes for heightened precision of fork compression and delivers better feedback to the rider.

### (3) Rear suspension

#### Features

- The rear suspension comes with fully adjustable spring preload and rebound and compression damping force. Compression damping is a 2-way – high-speed and low-speed – adjustable type, making possible precise settings.
- A ride-height adjustment system is equipped.
- The rear suspension spring sheets are now aluminum, instead of steel, reducing weight by 90 grams. The new rear suspension shock linkage as a whole is now 490 grams lighter, contributing to reducing the weight of rear suspension system by 780 grams.



	2011	2010
Rear suspension rod diameter	14 mm	←
Rear wheel travel	130 mm	←

### (4) Swingarm

#### Features

- Swingarm design has been reviewed, resulting in a weight reduction of 900 grams.
- The cushion lever is changed to pressed aluminum, from forged aluminum in the current model, while the arm structure is changed from die cast and plate to a cast, contributing to its weight reduction.



#### Benefits

- Further optimization of rigidity and reduced weight result in enhanced cornering performance and straightline stability.

### 2. Outline of braking system

#### Features

- The front brake system uses newly designed Brembo monoblock-construction cast-aluminum-alloy calipers, which feature high caliper-body rigidity and light weight.
- The 4-piston calipers are radial-mounted.
- The rear brake uses a compact and lightweight caliper shared with the GSX-R1000.
- The overall brake system is designed to heighten brake feel, with the goal of delivering better brake performance on racetracks.



## (1) Front brake calipers (Brembo)

### Features

- The new Brembo calipers are radial-mount, lightweight monoblock-construction opposed-4-piston calipers. Piston sizes were changed from 32-30mm to 32-32mm.
- Rather than the purely functional shapes of conventional brake calipers, the new Brembo calipers are shaped with an insistence on a visually pleasing design including the logo section, thus expressing a feeling of precision and cutting-edge performance.
- The mounting bolts are now the hollow type, to further reduce weight.
- The caliper design is 405 grams lighter as a whole compared to those on the current model.



2011 GSX-R600 front brake caliper



2010 GSX-R600 front brake caliper

	2011	2010
Brand	Brembo	TOKICO
Caliper type	Opposed 4-piston, monoblock	Opposed 4-piston, conventional
Mounting	Radial	←
Piston diameter	32 mm / 32 mm	32 mm / 30 mm
Master cylinder diameter (NISSIN)	17.46 mm	←

### Benefits

- The lighter weight of the brake system reduces chassis weight, and by itself contributes to enhanced brake performance.
- The monoblock construction is advantageous in reducing caliper weight.



2011 GSX-R600 front brake disc



2010 GSX-R600 front brake disc

	2011	2010
Disc diameter	310 mm	←
Disc thickness	5.0 mm	←

## (2) Rear brake

### Features

- The new compact, lightweight NISSIN-made rear brake caliper is shared with the GSX-R1000 (the caliper body is the same).
- The rear brake caliper as a whole is 262 grams lighter than the current model.



2011 GSX-R600 rear brake disc



2010 GSX-R600 rear brake disc

	2011	2010
Disc diameter	220 mm	←
Disc thickness	5.0 mm	←
Piston diameter	30.23 mm	38.18 mm

### Benefits

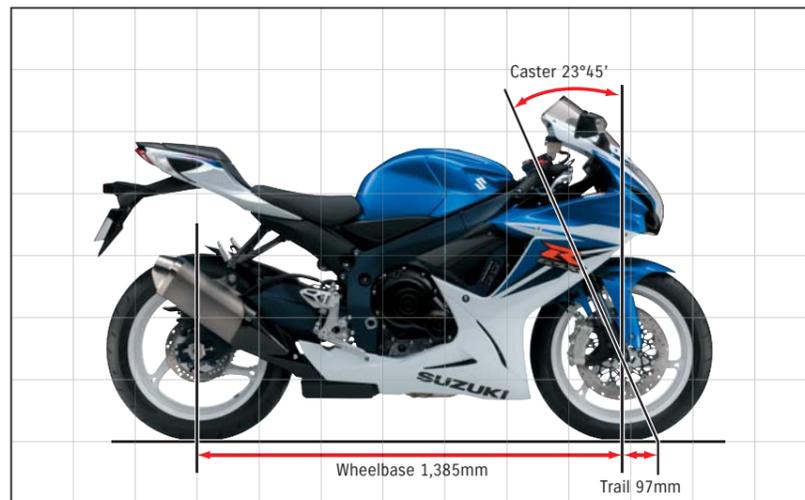
- A more compact and lightweight rear brake caliper helps reduce unsprung weight.

## 3. Adjustability

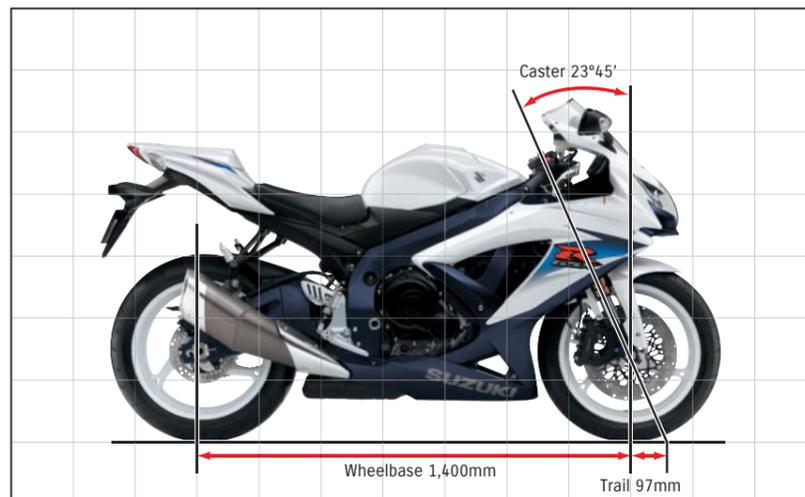
### (1) Riding position

#### Features

- Taking advantage of the 15mm-shorter wheelbase, the new riding position puts the handlebars at a shorter distance from the rider's hip point, and the handlebars are placed relatively low. The new riding position offers a high degree of comfort and freedom of rider movement.
- The handlebars are positioned at a 1-degree wider angle and the fuel tank shape has been reviewed taking into account various riding situations, such as tucked-in at racetracks, sport riding, handling through streets, long rides where comfort becomes more important, etc.



2011 GSX-R600



2010 GSX-R600

#### Benefits

- The changes contribute to a better-centered vehicle/rider mass, ease of changing directions through corners, and nimble handling.

### (2) Seat

#### Features

- For user convenience, the GSX-R600's seat height (810mm, carried over from the current model) is the lowest in the 600cm<sup>3</sup> Supersport class.
- The sections around the seat are shaped slim for easy straddling and knee grip.
- The seat is shaped to allow much freedom of moving the rider's hip point, and to help make the rider's knee and angle positioning comfortable.
- The seat and surrounding sections are shaped to allow smooth rider weight transfers on racetracks.
- The seat skin is upgraded.
- The weight of the seat section is reduced by 244 grams, by reducing the material thickness at the bottom of the front seat and by using a more compact pillion seat.



2011 GSX-R600



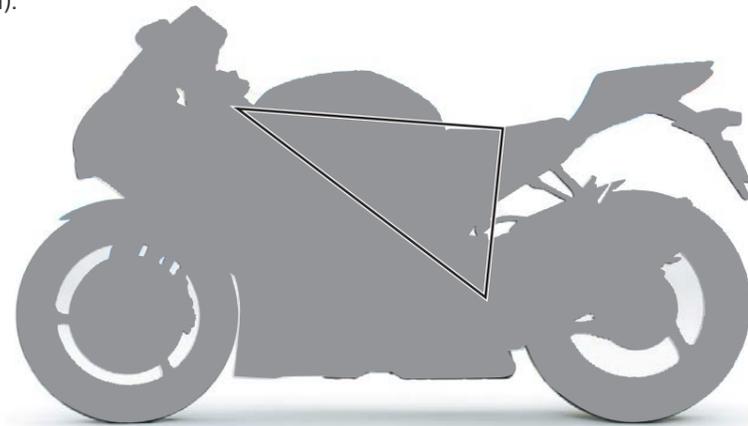
2008 GSX-R600

### (3) Adjustable footrests

#### Features

- As with the current model, the footpegs are 3-way adjustable, enhancing the freedom of assuming different riding positions. The related components are now reduced in weight (53 grams lighter compared to the current model).

← forward



### (4) Electronically controlled steering damper

#### Features

- An electronically controlled steering damper contributes to handling stability and a more agile feel by increasing the damping force at higher speeds and reducing the damping force at slower speeds (carried over from the current model).



## 4. Lightweight wheels and high-grip tires

### (1) Front axle

#### Features

- The front axle shaft diameter is reduced from 25mm to 22mm, reducing weight by 46 grams (tightening structure changed from an inside-axle screw/hollow bolt type to an outside-axle screw/nut type).



2011 GSX-R600 front axle



2010 GSX-R600 front axle

### (2) Front wheel

#### Features

- Hub and bearing sizes are reduced in accordance with the smaller-diameter front axle, resulting in a weight reduction of 210 grams as a whole.
- Only the hub section is changed to match the change in axle size; design remains unchanged.
- Wheel size remains the same as the current model, 17 M/C x MT3.5.

#### Benefits

- Lighter weight helps reduce unsprung weight which contributes to better smoothness of suspension operation, helping enhance road-surface contact and nimble handling.



### (3) Rear axle

#### Features

- Rear axle diameter is reduced from 28mm to 25mm.



### (4) Rear wheel

#### Features

- Hub and bearing sizes are reduced in accordance with the smaller-diameter rear axle. Along with the sprocket drum, the total weight was reduced by 190 grams.
- Wheel size remains the same as the current model, 17 M/C x MT5.5.



#### Benefits

- Lighter weight helps reduce unsprung weight which contributes to better smoothness of suspension operation, helping enhance road-surface contact and nimble handling.

### (5) Tires

#### Features

- Carried over from the current model, Bridgestone's high-performance sport tires are employed to realize running performance – the handling and grip – befitting the model's concept “The Top Performer”. Sizes remain the same as the current model:



Front



Rear

Front tire size	120/70ZR17M/C(58W), tubeless
Front tire brand	Bridgestone
Rear tire size	180/55ZR17M/C(73W), tubeless
Rear tire brand	Bridgestone

# Engine



## Engine

### 1. Outline of engine

#### (1) Outstanding low-to-mid rpm range performance

Redesigning of various moving parts results in reduced mechanical losses and enhanced low-to-mid rpm range performance, as well as enhancement of overall engine performance potential. The reduced chassis weight results in a further enhanced engine/chassis balance and an even more upgraded overall running performance. The weight of the engine itself is reduced by more than 2,000 grams.

#### Features

##### 1. Class-leading running performance

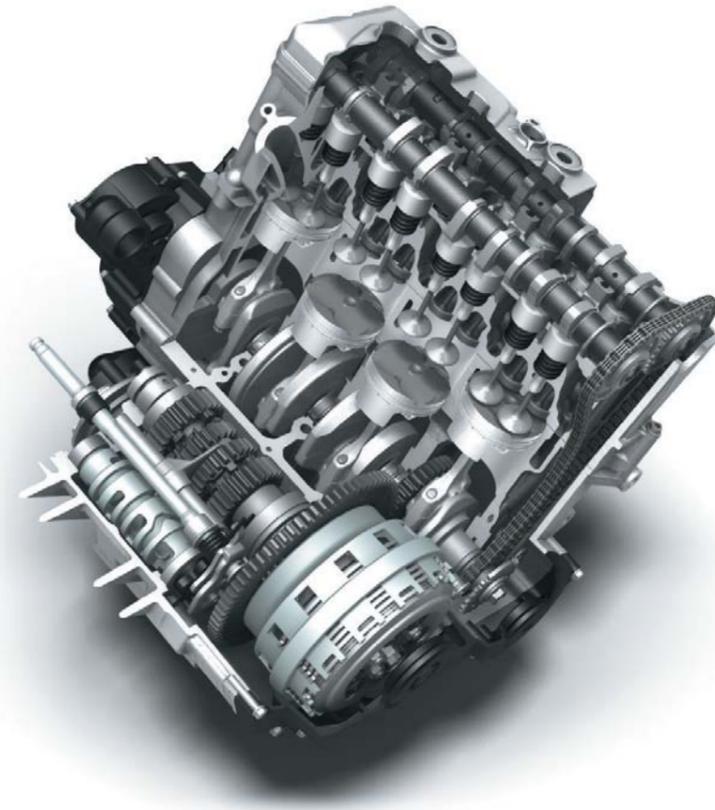
- Class-leading power-to-weight ratio in the 600cm<sup>3</sup> Supersport class.
- Lighter weight and reduced mechanical losses result in enhanced running performance.
- Upgraded engine performance in the low-to-mid rpm range (more torque and power) results in a more accessible, more controllable engine performance characteristics.

##### 2. Enhanced environmental performance

- Fuel mileage is improved by approximately 10% (WMTC mode, Suzuki in-house research). In addition to a combination of lighter engine weight and reduced mechanical losses, the progression of combustion efficiency and the reduction of overall weight also contributed to this improvement.

##### 3. Adjustable performance, with an easy-to-use system

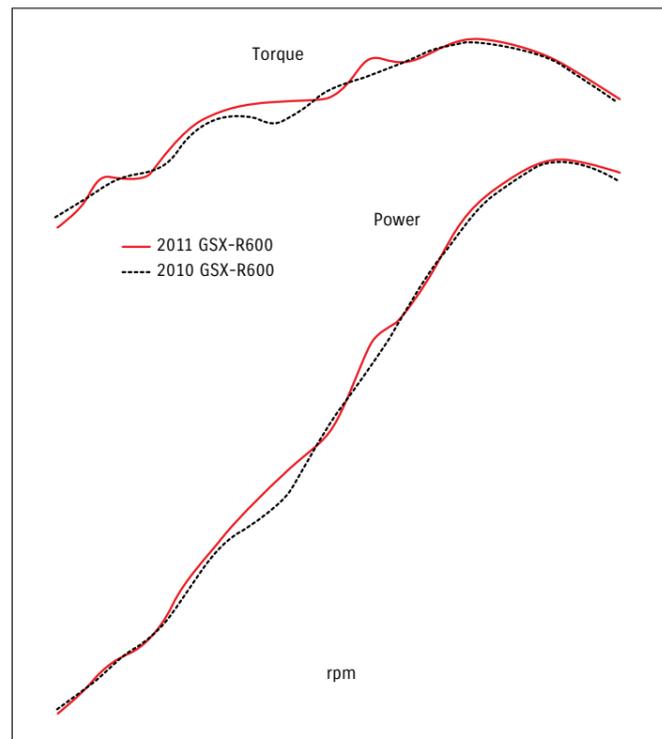
- Suzuki Drive Mode Selector (S-DMS) system with further-refined two-map selection.



**(2) GSX-R600 engine performance**

**Features**

- Increased torque and power in the low-to-mid rpm range without sacrificing top end power.



	2011	2010
Maximum power	92.5 kW/13,500 rpm	92.0 kW/13,500 rpm
Maximum torque	69.6 Nm/11,500 rpm	68.6 Nm/11,500 rpm
Bore × Stroke	67 mm × 42.5 mm	←
Compression ratio	12.9	12.8



**2. Lighter engine, enhanced running performance**

**Features**

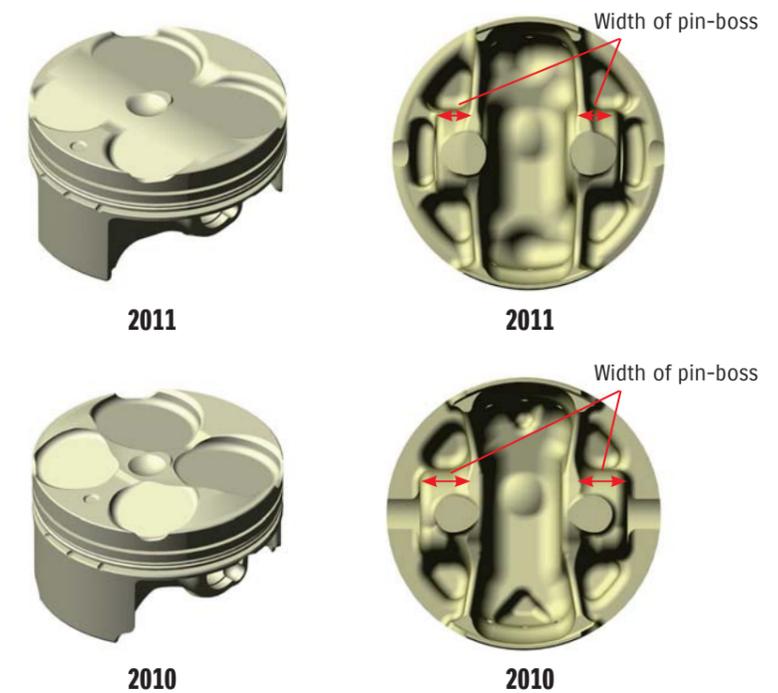
- The pistons and camshafts were all newly designed, utilizing advanced analysis technology used for MotoGP racing engines, resulting in further optimized shapes, rigidity and weight.



**(1) Piston**

**Features**

- Piston weight reduced by reduction of skirt length and pin-boss width. Weight of 4 pistons in assembly is reduced by 78 grams.
- The valve recess on top of the piston is now a smooth, forged structure, instead of formed by machining, resulting in enhanced combustion efficiency.
- Making use of fatigue analysis technology used for developing MotoGP racing engines, the piston design realizes large weight reduction while further optimizing strength and maintaining durability. The pistons are very light compared to those on other makes, and the resulting reduction in mechanical losses contributes to further enhancing the power output characteristics.



**Benefits**

- Thoroughgoing reduction of the weight of moving parts results in reduction of mechanical losses.

## (2) Piston rings

### Features

- As with the current model, the upper compression ring and the oil control ring are chrome-nitride-coated using a Physical Vapor Deposition (PVD) system, which contributes for reducing friction loss.



### Benefits

- PVD system involves vaporizing chrome nitride inside a vacuum chamber and letting it attach to a surface. Compared to conventional chrome-plating, PVD system makes possible a more uniform plating-surface thickness and a smoother surface processing, resulting in reduced friction losses and reduced oil consumption, together with increased durability.

## (3) Cam profile

### Features

- Cam profiles were reviewed utilizing analysis technology employed for MotoGP racing engines. By reducing the overlap (that is, shortening the time that both the intake and exhaust valves are open) from 63 degrees to 58 degrees, by decreasing the acting angle and the maximum lift, the engine is tuned for a more meaty low-to-mid rpm range torque, while retaining peak output at high rpm.
- The GSX-R600 engine revs to 15,500 rpm – the highest figure among production Suzuki bikes, and similar to racing machines. In order to counter valve spring surging which tends to occur at high rpm, a detailed cam lift curve was prepared making use of the surging-prevention technology from MotoGP development (Suzuki in-house calculation program). As a result, the engine performance character is pushed to new heights while maintaining intact the valvetrain reliability.

### Benefits

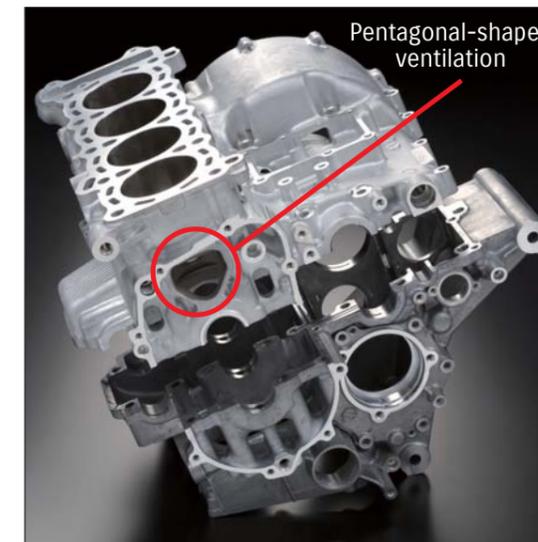
- By reviewing the cam profile, the engine character is tuned for a meatier low-to-mid rpm range torque while maintaining high-rpm peak output, translating into a more accessible power output on both racetracks and on the streets.

Model	2011 GSX-R600		2010 GSX-R600	
	IN	EX	IN	EX
Open	BTDC 30°	BBDC 61°	BTDC 34°	BBDC 57°
Close	ABDC 64°	ATDC 28°	ABDC 67°	ATDC 29°
Max. Lift	7.8 mm	7.8 mm	8.2 mm	8.0 mm

## (4) Crankcase

### Features

- The pentagonal-shaped ventilation holes at the top of the cast crankcase are both more functional and larger, thus contributing to both weight reduction and airflow.



2011 GSX-R600



2010 GSX-R600

### Benefits

- Further reduction of pumping losses and enhanced combustion efficiency, resulting in increased low-to-mid rpm range torque.

## (5) Suzuki Composite Electrochemical Material (SCEM) - plated cylinders

### Features

- As on the current model, the cylinders are plated with SCEM, Suzuki's well-proven, racing-derived, nickel-phosphorus-silicon-carbide coating technology.

### Benefits

- SCEM offers efficient heat dissipation and allows smaller piston-to-cylinder clearances, resulting in superb wear resistance for increased durability.

### 3. Compactly designed engine layout

#### Features

- The engine is rotated rearward by 3 degrees around the driveshaft to reduce the wheelbase to further heighten racetrack performance.



#### Benefits

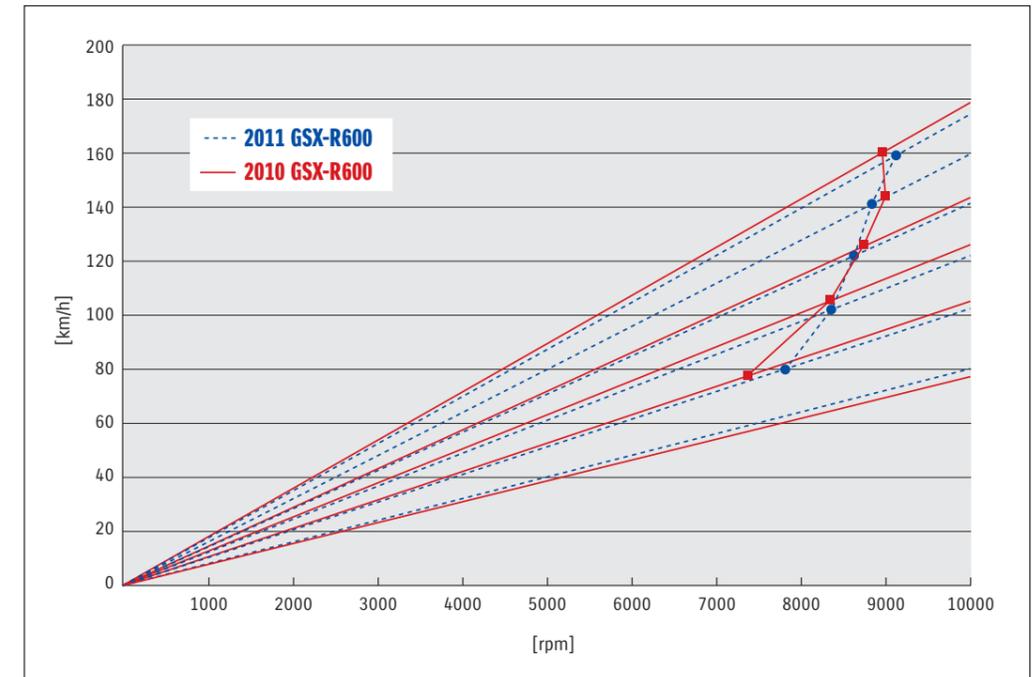
- The rotated engine position helped shorten the wheelbase by 15mm, contributing to enhanced handling stability and upgraded cornering performance.
- The shorter wheelbase helps shorten the overall vehicle length, contributing to keeping the chassis compact and reducing inertial moment.
- These upgrades effectively increase racetrack performance to an all-time high.

### 4. Smooth shifting

#### (1) Transmission

#### Features

- The 1st through 4th and the 6th (that is, every gear except the 5th) transmission drive and driven gears are newly designed with new drive ratios.
- The weight of the transmission-related components as a whole has been reduced by 185 grams.



	2011	2010
Primary reduction ratio	1.974 (77/39)	←
Gear ratio 1st	2.687(43/16)	2.785 (39/14)
2nd	2.105 (40/19)	2.052 (39/19)
3rd	1.761 (37/21)	1.714 (36/21)
4th	1.521 (35/23)	1.500 (36/24)
5th	1.347 (31/23)	←
6th	1.230 (32/26)	1.208 (29/24)
Final reduction ratio	2.687 (43/16)	←

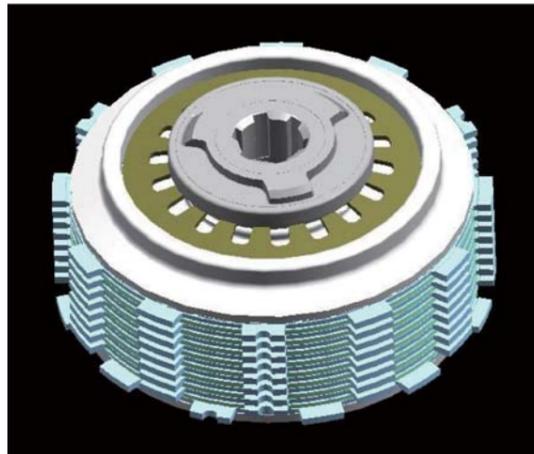
#### Benefits

- Improved low-to-mid rpm range acceleration performance, offering stronger acceleration out of corners on racetracks, etc.
- The transmission realizes smooth shifting operation and also contributes to reduction of engine power losses.

## (2) Back-torque limiter

### Features

- The back-torque limiter makes for smoother downshifting operation, and helps the rider make effective use of the powerful engine output and chassis performance.



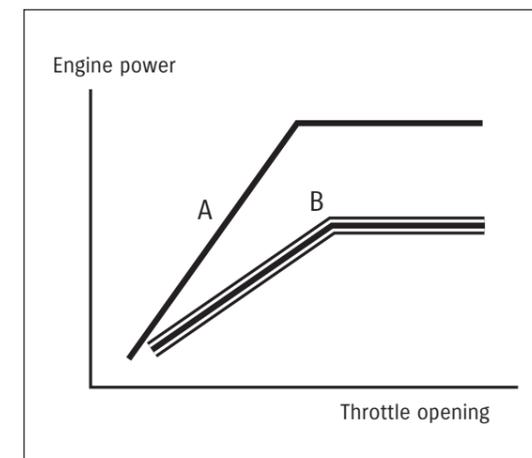
### Benefits

- Helps make quick downshifts on racetracks, etc smoother.

## 5. Suzuki Drive Mode Selector (S-DMS)

### Features

- S-DMS allows the rider to select a power character to suit the rider's personal preferences in various situations. The latest version features a 2-map selection designed pursuing performance merits and ease of use.
- The S-DMS selection switch is moved to the left handlebar for smoother operation.



Schematic graph



The photo is edited to show all of the instrument lights and displays.



### Benefits

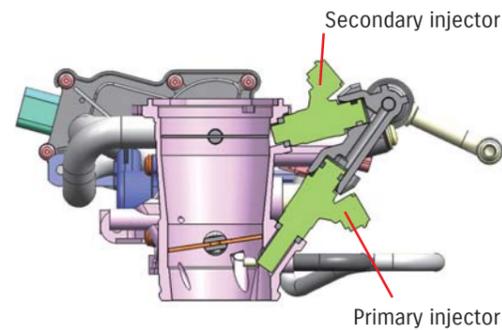
- Map A: Delivers full power performance.
- Map B: Ignition control logic is modified, delivering a more moderate throttle-response feel (a more moderate engine character that could be more rider-friendly during street rides, touring rides, scrubbing in a new tire, rainy conditions, etc).

## 6. Precise engine control and environmental performance

### (1) Suzuki Dual Throttle Valve (SDTV)

#### Features

- The SDTV system uses two butterfly valves in each throttle body to realize fine control of fuel injection.
- The primary injector angle is changed from 41 to 35 degrees to optimize the direction of fuel spray.
- The system uses fine-spray-type primary and secondary injectors. The injectors are now more compact, allowing more freedom of layout (the new layout also resulted in the air cleaner attaching section changed to a flange type).



#### Benefits

- Prompt, linear throttle response allowing quick action of the much lighter latest GSX-R600.
- Makes for stable combustion when decelerating, transitioning from deceleration to acceleration, etc, and contributes to allowing sophisticated engine-power control feel.

### (2) Idle Speed Control (ISC)

#### Features

- ISC is carried over from the current model.
- ISC constantly maintains stable idling operation, greatly enhancing user comfort. The Engine Control Module (ECM) senses and calculates the difference between actual idling rpm and normal idling rpm; an ISC valve located in the throttle body bypass circuit is opened/closed by a stepping motor to regulate the amount of intake airflow and thus compensate to reach the normal idling rpm.

#### Benefits

- When starting in cold climates, the system also conducts fast-idle control by increasing the volume of intake airflow based on engine coolant temperature information from the sensor.

### (3) Engine Control Module (ECM)

#### Features

- Using feedback from MotoGP technology, the ignition driver is changed to an advanced transistorized ignition control circuit, improving performance. The ignition circuit has been reviewed. Countermeasures against heat have been taken.
- The ECM is now located near auxiliary equipment, and the wire harness routing has been improved to reduce the amount of wires, resulting in weight reduction of 250 grams.

#### Benefits

- The changes allow more detailed control of the ignition logic. In particular, combustion efficiency when throttle is slightly open is heightened and operating feel is improved.



### (4) Iridium plugs

#### Features

- Spark plugs are carried over from the current model, using NGK-made CR9EIA-9 iridium spark plugs.

#### Benefits

- The efficient and durable iridium spark plugs help realize detailed engine control.



## (5) Muffler

### Features

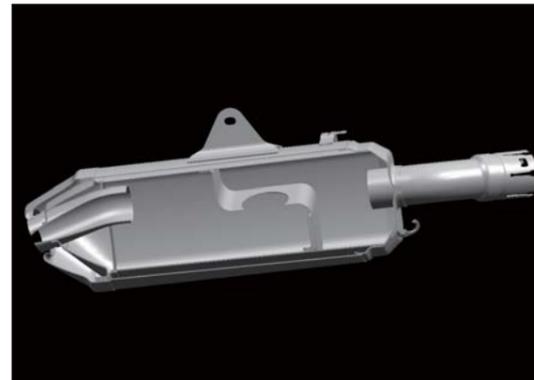
- The new-design muffler is more compact and lighter. The 4-into-1 exhaust system is composed of stainless-steel exhaust pipes, an exhaust chamber and a titanium muffler. Thinner exhaust-pipe wall thickness (reduced from 1.2mm to 1.0mm) and more compact chamber and muffler save weight (the exhaust pipes and chamber together are 900 grams lighter, while the muffler is 800 grams lighter).



2011 GSX-R600



2010 GSX-R600



### Benefits

- The design realizes Euro3 environmental performance together with compact, sporty looks.

## (6) Suzuki Exhaust Tuning (SET)

### Features

- As with the current model, the exhaust system is fitted with SET system, an exhaust device that opens/closes a butterfly valve in accordance with the engine rpm.

### Benefits

- SET maximizes the exhaust-pulse effect, especially at low-to-mid rpm range, to increase power output.

## (7) Pulsed-AIR (PAIR) injection

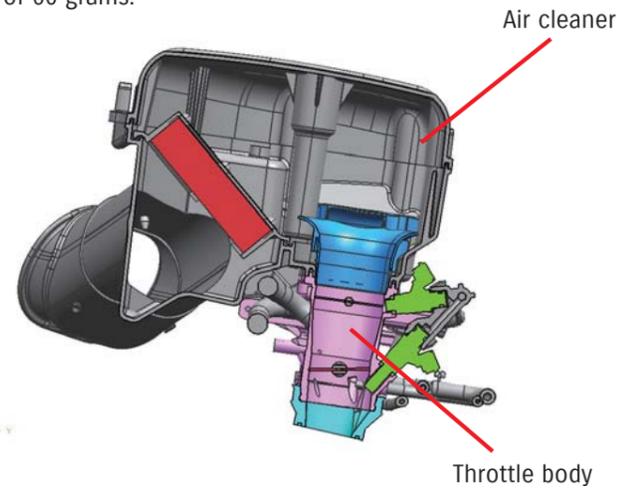
### Features

- Built-in PAIR system greatly contributes to environmentally friendly performance.
- The PAIR system directly injects fresh air from the air cleaner box into the cylinder head exhaust port – through a PAIR control solenoid valve which is controlled by the ECM in accordance with throttle position and engine rpm – to react with unburned hydrocarbons (HC) and thus reduce carbon monoxide (CO) emissions.

**(8) Air cleaner**

**Features**

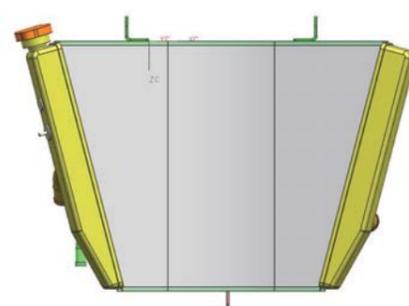
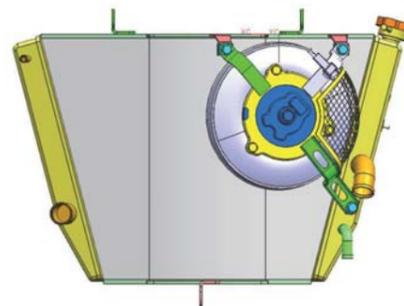
- To further optimize the air-cleaner layout, the shapes of the air cleaner and intake pipe are changed. The changes also realize a weight reduction of 60 grams.



**(9) Radiator**

**Features**

- The radiator fan is enlarged (diameter increased from 171mm to 180mm) for better cooling performance.



**7. Instruments**

**(1) Instrument cluster**

**Features**

- The instrument cluster is a full function type shared with the 2010 GSX-R1000.
- A gear position indicator is carried over from the current model.
- Stopwatch and lap timer are newly added, and the LCD is enlarged.
- The engine rpm indicator is derived from MotoGP machines. Unlike that of the current model which can be programmed at only one rpm setting, the indicator can be programmed for four different rpm settings. The indicator can be used as a reference for up-shift timing on racetracks and on winding roads.

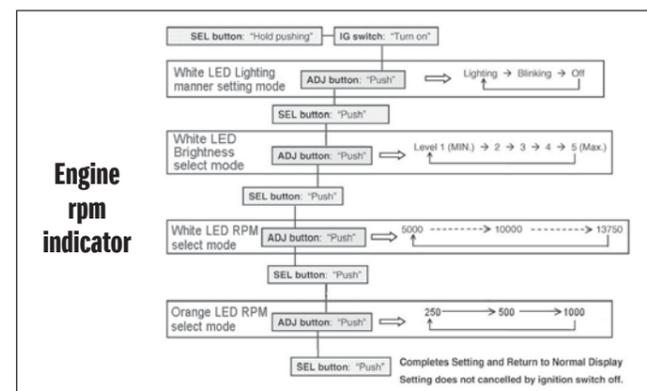


2011 GSX-R600



2010 GSX-R600

The photos are edited to show all of the instrument lights and displays.



**(2) Handlebar controls**

**Features**

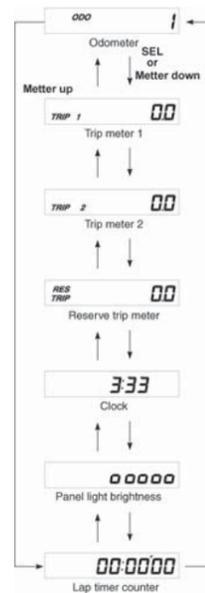
- The S-DMS selection switch is moved to the left handlebar, from the right handlebar in the current model.
- Meter display selection switch on the right handlebar can control the stopwatch and lap timer, and measure times up to 99 minutes and 59.99 seconds.



S-DMS selection switch



Meter display selection switch



**(3) Immobilizer**

**Features**

- Immobilizer is standard equipment (except for the North American market). The immobilizer is the rolling-code type: the immobilizer communicates with the ECM using a different code each time the ignition switch is turned on – a complex signaling system that makes for a highly effective theft prevention measure.



## 1. Styling concept

### Features

- A lightweight and compact styling design created with the development goal of delivering, just like the engine and chassis, a class-leading racetrack performance. While inheriting the highly popular styling themes of current and previous models, the latest model embodies further refinements that heighten its functionality.
- Styling highlights inherited from previous models, such as the rearview-mirror-integrated turn signals and the vertically-stacked dual headlights.
- Further refinements to realize a more compact, lightweight and functional styling design to help make the latest GSX-R600 more functional not only on racetracks but in a variety of riding situations.

#### 1. More compact

- A compact bodywork. The front overhang is reduced by 55mm, while the rear overhang is reduced by 35mm. Use of a more compact muffler.

#### 2. Lighter

- While pursuing further aerodynamic refinement, the new bodywork is much lighter, realizing a 3,400 gram (35 percent) weight reduction for the plastic bodywork components by reducing the number of parts (eight less parts), reducing overlapping sections, etc.

#### 3. More functional

- 810mm seat height, the lowest seat height in the 600cm<sup>3</sup> Supersport class. Seat and surrounding sections designed to allow rider much freedom of movement. Side-panel center section shaped with added parts to improve the airflow.
- A combination of smooth curved sections and sharp, edgy sections creates a trim, functional form.



2011 GSX-R600 sketch



2011 GSX-R600



2010 GSX-R600

2011 GSX-R600



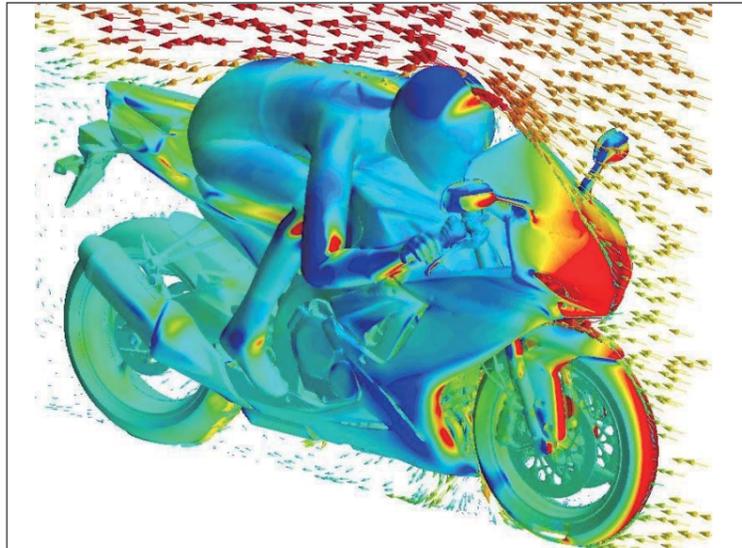
2008 GSX-R600



## 2. External components

### Features

- The front cowling is designed to provide effective wind protection while pursuing compactness and light weight.
- The design, aimed at keeping the frontal area as much as possible to reduce weight, maintains a favorable CdA (aerodynamic) figure and high wind-protection performance (similar to the current model).



### Benefits

- Sophisticated airflow management realized with thoroughgoing wind-tunnel testing.

## (1) Lower cowling

### Features

- The compact and lightweight lower cowling helps smooth the airflow toward the muffler cover.



## (2) Fuel tank

### Features

- The newly designed fuel tank has the top lowered, making the shape more convenient for the rider to tuck-in on racetracks. Fuel capacity is 17 liters.
- The tank cover is reshaped for a fresh new styling image.



## 3. Trademark styling

### (1) Headlights

#### Features

- The latest model inherits the vertically stacked dual headlights layout, the trademark of the GSX-R series. Designed for both aerodynamic refinement and light weight, the headlights now weigh 1,338 grams instead of the current model's 1,900 grams, a weight reduction of 562 grams.
- The headlights deliver ample light distribution with a 12-volt 55-watt low-beam, 12-volt 65-watt high beam and two 12-volt 5-watt position lights.



2011 GSX-R600



2008 GSX-R600

### (2) Turn signals

#### Features

- The latest model inherits the characteristic mirror-mounted turn signals.



### (3) Rear combination lamps

#### Features

- The LED combination lamp is built into the tailsection that's slim-styled and thin-shaped.
- The rear turn signals are shaped to wrap around well onto the top of the seat cowl, accentuating the impression of the tail section sweeping up rearward to a minimum-sized tail end.



## Styling

### 4. Body colors



Metallic Triton Blue / Glass Splash White (GLR)



Metallic Mat Black No.2 / Pearl Mirage White (JDT)



Glass Sparkle Black (YVB)

## Specifications



## Specifications

Dimensions and curb mass	
Overall length	2,030 mm (80.0 in.)
Overall width	710 mm (28.0 in.)
Overall height	1,135 mm (44.7 in.)
Wheelbase	1,385 mm (54.5 in.)
Ground clearance	130 mm (5.1 in.)
Seat height	810 mm (31.9 in.)
Curb mass	187 kg (412 lbs.)
Engine	
Engine type	4-stroke, 4-cylinder, liquid-cooled, DOHC
Number of cylinders	4
Bore × Stroke	67 mm (2.6 in.) × 42.5 mm (1.7 in.)
Displacement	599 cm <sup>3</sup> (36.5 cu. in.)
Compression ratio	12.9 : 1
Valve angle IN.	10.0 degrees
Valve angle EX.	12.0 degrees
Fuel system	Fuel injection
Throttle body size	40 mm (1.6 in.)
Air cleaner	Paper element
Starter system	Electric
Lubrication system	Wet sump
Idle speed	1300 ± 100 r / min
Drive train	
Clutch	Wet multi-plate type
Transmission	6-speed constant mesh
Gearshift pattern	1-down, 5-up
Primary reduction ratio	1.974 (77/39)
Gear ratio, Low	2.687 (43/16)
2nd	2.105 (40/19)
3rd	1.761 (37/21)
4th	1.521 (35/23)
5th	1.347 (31/23)
Top	1.230 (32/26)
Final reduction ratio	2.687 (43/16)
Drive chain	RK525 SM0Z8, 114 links

Chassis	
Frame	Twin spar
Front suspension	Inverted telescopic, coil spring, oil damped, spring preload fully adjustable, rebound and compression damping force fully adjustable
Front fork	SHOWA (BPF)
Front fork stroke	120 mm (4.7 in)
Rear suspension	Link type, coil spring, oil damped, fully adjustable spring preload and rebound and compression damping force, compression damping force 2-way (high-speed and low-speed) adjustable
Rear wheel travel	130 mm (5.1 in)
Caster	23°45'
Trail	97 mm (3.82 in)
Steering angle	27° (right & left)
Turning radius	3.4 m (11.2 ft)
Front brake	Disc brake, twin
Rear brake	Disc brake
Front brake disc	310 mm
Rear brake disc	220 mm
Master cylinder Front	NISSIN 17.46 mm
Master cylinder Rear	NISSIN 14 mm
Caliper cylinder Front	Brembo, opposed 4-piston, 32/32 mm, radial mount
Caliper cylinder Rear	NISSIN, single piston, 30.23 mm
Front tire size	120/70ZR17M/C (58W), tubeless
Rear tire size	180/55ZR17M/C (73W), tubeless
Electrical	
Ignition type	Electric ignition (Transistorized)
Spark plug	DENSO IU27D / NGK CR9EIA-9
Battery	MF12V 8AH
Generator	Three phase AC generator
Main fuse	30A
Fuse	HI/LO/IGNITION/SIGNAL/FUEL: 10A FAN:15A
Headlight	12V65W (Hi) / 12V55W (Lo)
Turn signal light	12V21W × 4
License plate light	12V5W
Position / Parking light	12V5W × 2
Tail light	13.5V/0.5W LED
Brake light	13.5V/4.9W LED
Instrument cluster	Analog tachometer, digital speedometer, odometer, dual trip meter, reserve trip meter, clock, coolant temperature, oil pressure warning indicator, lap timer/stopwatch, S-DMS indicator, gear position indicator, engine rpm indicator
Speedometer light	LED
Tachometer light	LED
Neutral indicator light	LED
High beam indicator light	LED
Turn signal indicator light	LED
Oil pressure / Coolant temperature indicator light	LED
FI/SD indicator light	LED
Engine RPM indicator light	LED
Immobilizer indicator light	LED (Except for North American market)
Capacity	
Fuel tank	17.0 L (4.5 US gal.)
Engine oil / Oil change	2.2 L (2.3/1.9 US/Imp qt)
With filter change	2.5 L (2.6/2.2 US/Imp qt)
Overhaul	2.9 L (3.1/2.6 US/Imp qt)
Coolant	2.65 L (2.8/2.3 US/Imp qt)