



## **TECHNICAL INFORMATION**

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#### **Introduction and Concept**



The 2011 Suzuki GSR750 is a blend of the modern and the futuristic with a powerful 749cm<sup>3</sup> four-cylinder fuelinjected engine.

For this model, we spent more than 2 years conducting serious and intensive market surveys on design and customer needs. We talked with many customers and carefully watched many riders to understand the way in which they ride, or even their lifestyle.

The GSR750's cool, distinctive and stylish design is our answer to those riders. But in order to give them an extra thrill, we thought we needed one more feature.

This is why we implanted a powerful 749cm<sup>3</sup> engine.

The stronger low-to-mid rpm range torque gives you the sensation and extra thrill of riding, complementing the all-new stylish design.

The GSR750 is an entertaining machine meant for proud, experienced riders who aren't afraid to think for themselves or attract attention. Riders who appreciate a dynamic ride, with strong acceleration and sensation.

Drastic styling gives an edge. Thrilling performance stimulates aggression.

Go Wild on a GSR750.

Your transformation awaits.

## 1. Concept chart

Drastic and futuristic stylin	Headlight with bluish dual position lights
	Front and rear fenders designed with strong lines
	Inverted front forks
	Massive fuel tank and front section
	Hugger Fender
	Slim and well-shaped seats
	Unique triangular muffler with form-fitting cover
	Angular tail section with integrated LED taillight
	Pillion rider's footrest and stay
	Instrument cluster
A dynamic ride with strong acceleration and sporty har	ndling
Engine design	749cm <sup>3</sup> engine to deliver robust torque with strong acceleration
	Camshaft profiles
	Suzuki Dual Throttle Valve (SDTV)
	Extra-fine-atomization, 8-hole fuel injector
	Close-ratio transmission
	Suzuki Exhaust Tuning (SET)
Chassis design	Inverted front fork
	Link type rear suspension and swingarm
	Twin-spar frame
	Sporty riding position
	Front and rear brakes
	Tires with new pattern and lightweight wheel
Electrical design	Transistorized digital ignition system
	Iridium spark plug
)thers	
Environmental perform	ance Idle speed controll (ISC) system
	Pulsed secondary-AIR (PAIR) injection system
	Catalyzer
Genuine Accessories	Meter visor
	Under cowl

#### **Introduction and Concept**

#### 2. Key Features Overview

#### Feature map of the new GSR750

#### (1) Overall styling

Overall styling expresses a lean and mean, futurisfic and mechanical image. The side body has several strong character lines starting at the front and moving up and back. (See page 10)



#### (2) Engine

Powerful 749cm<sup>3</sup> engine to maximize smooth throttle response and immediate controlled acceleration. (see page 23)





#### (5) Headlight

Bright and distinctively shaped dualfilament halogen-bulb headlight. Integrated dual position lights with patterned blue lenses. (see page 11)



#### (6) Fuel tank

Chiseled 17.5-liter fuel tank with contrasting, textured tank side panels. (see page 14)



#### (7) Radiator side panels

Light and open radiator side panels mated with aggressive front bodywork side pieces. (See page 14)





#### (3) Front suspension (Inverted front forks)

Inverted front forks with massive image feature 41mm stanchion tubes and gold-color anodized upper tubes and allow spring preload to be externally adjusted. (see page 13)



#### (4) Frame

The use of steel helped allow the frame design to be kept slim to realize the styling concept. (see page 32)



#### (8) Tailsection

Angular, LED-taillight-integrated tailsection provides sharpness and freshness. (See page 18)



#### (9) Muffler

Distinctive, triangle-shaped muffler, with a form-fitting brushed stainless steel heat shield. (see page 17)



#### (10) Instrument cluster

Silver-accented instrument cluster is designed to provide freshness and quality feel, featuring a prominent analog tachometer and a large digital LCD display. (see page 20)





#### 1. Styling concept

- The styling concept of the GSR750 can be summed up as "Cool Villain" aggressive, futuristic and attractive bad guy image.
- The design takes its inspiration from movies, Japanese animations and subculture artifacts.
- The side view contains several character lines extending upwards toward the rear.

#### **Styling image**





**GSR750 Sketch** 

## 2. Overall styling









**GSR750** 









**GSR600** 

### 3. Details

## (1) Headlight Features

- A modern, edgy headlight shell.
- We have added details, which give the styling a "Bad" image.
- Multi-reflector combined high/low beam with a dual-filament halogen bulb and clear main lens.
- Integrated dual position lights with patterned blue lenses.





ltem	GSR750	
Wattage	12V60/55W (H4)	
Light distribution	Multi-reflector	
Type of bulb	Halogen	
Position light lens color	Blue	
Position light wattage	12V5W x 2	

## (2) Front and rear fenders Features

- The front and rear fenders are designed with strong lines starting at the front and moving up and back.
- The hole added to the front fender reinforces the mechanical image.





## (3) Inverted front forks Features

• Inverted KYB front forks with massive image feature 41mm stanchion tubes and gold-color anodized upper tubes and allow spring preload to be externally adjusted.





## (4) Fuel tank and front section Features

- The fuel tank is shaped short in length and tall in height to create a prominent, voluminous feel.
- The fuel tank is flanked by side panels with textured surfaces that deliver an eye-pleasing contrast with the tank surface.
- Light and open radiator side panels and aggressive front bodywork side pieces.
- The cylinder head and crankcases are painted in black to look robust.



## (5) Hugger fender Features

• The rear hugger not only helps protect the rear of the bike from dirt while riding, but also features stylish design matched with futuristic styling.





- The rider's seat is designed to be slim and flanked by stylish frame side covers.
- Together with the narrow body width, it allows the rider to access to the ground easily.
- The pillion rider's seat is separated from the rider's seat, and is designed very sharply.
- A compartment underneath the removable pillion rider's seat can carry a U-shaped lock or can be used to store small items.





Item	GSR750	
Rider's seat height	815 mm	
Rider's seat length	295 mm	
Rider's seat width	125 mm	
Pillion rider's seat Separate		
Location of storage Under pillion rider's seat		

## (7) Muffler Features

- The muffler has a distinctive triangular shape.
- The muffler cover is a form-fitting, brushed-stainless steel heat shield.







- Angular tailsection with integrated LED taillight.Together with LED and the muffler-less tail design, it provides sharpness and freshness.





## (9) Footrest Features

- The rider's rubber-padded aluminum footrests are positioned on lightweight aluminum plates.
- The knurled-aluminum pillion rider's footrests are attached to aluminum mounts bolted to the frame tailsection.
- The aluminum mounts also work as part of character lines on the side body.
- Hooks built into the pillion rider's footrest mounts make it easier to secure a small bag or parcel to the rear seat.







Item	GSR750
Rider's footrest	Foldable with rubber grip
Pillion rider's footrest	Foldable with knurl finish
Number of stay section	2
Material of front stay section	Cast aluminum alloy
Material of rear section	Cast aluminum alloy

## (10) Instrument cluster Features

- The silver-accented instrument cluster is designed to provide freshness and quality feel.
- The instrument cluster has a prominent analog tachometer on the left and other functions packed in a back-lit, brightness-adjustable LCD display on the right.
- The main functions are indicated as below:
- The instrument cluster also include neutral indicator, high beam indicator, turn signal indicators, and oil pressure / coolant temperature indicator.



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

## (11) Rearview mirrors Features

• Molded rearview mirrors, which accentuate the overall styling with futuristic and mechanical image, are newly designed with straight lines.









#### Engine

#### 1. Outline of engine

#### Features

- Powerful 749cm<sup>3</sup> engine designed to maximize smooth throttle response and deliver immediate, controlled acceleration.
- The engine's power character is specifically tuned to provide ample low-to-mid rpm range torque.
- Extra-fine-atomization injectors, optimized camshaft profiles, transistorized ignition system, iridium spark plugs and other technologies result in state-of-the-art efficiency.
- Such high-efficiency designs help maximize smooth throttle response, allow delivery of immediate, controlled acceleration, and provide ample low-to-mid range torque.
- The engine's efficient power output translates into an outstandingly user-friendly running performance in a variety of riding situations.
- The above engine designs also make the GSR750 10% more fuel-efficient (WMTC mode, Suzuki inhouse research) than the GSR600.

#### **Specifications**

ltem	GSR750	GSR600
Туре	4-stroke, in-line 4 cylinders	←
Cooling system	Liquid-cooled	←
Valve system	ООНС	÷
Displacement	749 cm <sup>3</sup>	599 cm <sup>3</sup>
Bore	72.0 mm	67.0 mm
Stroke	46.0 mm	42.5 mm
Compression ratio	12.3	12.5
Fuel system	Fuel injection	←
Lubrication system	Wet sump	÷
Max power	78 kW / 10,000 rpm	72 kW / 12,000 rpm
Max torque	80.0 Nm / 9,000 rpm	64.7 Nm / 9,600 rpm

#### **Performance curves**



#### Engine

#### 2. Modifications for low-to-mid rpm range torque

#### (1) Camshafts profiles Features

 The cam profiles are designed to optimize the valve timing to tune the GSX-R750 engine – which is designed keeping in mind racetrack use – to obtain the GSR750 power character that's more suited to the streets and winding roads.

#### Benefit

• Thoroughgoing testing by the engineering team resulted in suitable cam profiles that contribute to both the GSR750's agile acceleration performance and the improved fuel efficiency.

#### (2) Suzuki Dual Throttle Valve (SDTV) injection system Features

- The Suzuki Dual Throttle Valve (SDTV) design has two butterfly valves in each throttle body cylinder.
- The primary valve is connected to the throttle cable, while the opening position of secondary valve is regulated by a motor controlled by the ECM based on engine rpm, gear position and primary-valve position.
- The secondary valve opens/closes to constantly maintain optimum intake velocity.

#### Benefit

- Prompt, linear throttle response allowing quick action of the GSR750
- Makes for stable combustion when decelerating, transitioning from deceleration to acceleration, etc, and contributes to allowing sophisticated engine-power control feel.

## (3) Injectors

#### Features

 Each cylinder is fed by a 8-hole extra-fineatomization fuel injector.



#### Benefit

- The injector delivers an ultra-fine mist of fuel/air mixture to each cylinder for greater combustion efficiency, increased power and optimum fuel economy.
- The injector realizes high combustion performance particularly during ordinary street rides.

## (4) Transmission Features

- The powerful 749cm<sup>3</sup> uses a close-ratio six-speed transmission.
- The 2nd through 6th gears are newly designed for GSR750.

Item	GSR750	GSR600
Transmission	6-speed constant mesh	÷
Gearshift pattern	1-down, 5-up	÷
Primary reduction ratio	1.857 (78 / 42)	1.926 (79 / 41)
Gear ratios low	2.785 (39 / 14)	<del>(</del>
2nd	2.052 (39 / 19)	2.000 (32 / 16)
3rd	1.681 (37 / 22)	1.600 (32 / 20)
4th	1.450 (29 / 20)	1.363 (30 / 22)
5th	1.304 (30 / 23)	1.208 (29 / 24)
6th	1.181 (26 / 22)	1.086 (25 / 23)
Final reduction ratio	2.470 (42 / 17)	3.000 (48 / 16)
Drive chain	RK525SMOZ8, 112 links	RK525SMOZ7Y, 114 links
Clutch	Wet multi-plate type	<del>(</del>

#### Benefit

- The transmission realizes smooth operation and acceleration, contributing to reduction of engine power losses.
- Power band utilization can be maximized by optimizing the gear ratio for GSR750.

## (5) Suzuki Exhaust Tuning (SET)

#### Features

- SET is an exhaust device that opens/closes a butterfly valve in accordance with the engine rpm.
- SET system is installed inside the exhaust pipes.

#### Benefit

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

## (6) Transistorized ignition control circuit

#### Features

• Transistorized ignition control circuit, which is a feedback of the MotoGP racing technology, is installed.

#### Benefits

- The changes of ignition driver allow more detailed control of the ignition logic. In particular, combustion efficiency when throttle is slightly open is heightened and operating feel is improved.
- This results in weaker harshness in acceleration and more torque at low-to-mid rpm range.

## Engine

#### 3. Devices for environmental friendliness

## (1) Spark plug Features

• The iridium spark plug is newly used.



ltem	GSR750	GSR600
Туре	NGK CR9EIA-9 or DENSO IU27D	NGK CR9E or DENSO U27ESR-N
Material of electrode	Iridium alloy	Nickel alloy
Shape of discharge point	Ultra-small tip (Ignition centered)	Conventional (Ignition dispersed)

#### Benefits

- The efficient and durable iridium spark plug helps realize detailed engine control.
- Each plug has fine, iridium-alloy electrode that produces a hotter spark, resulting in more complete combustion and improved throttle response.

## (2) Catalyzer Features

- The muffler contains a catalyzer to reduce exhaust emissions and enhance environmental performance.
- The catalyzer is designed to reduce more hydrocarbons (HC), the carbon monoxide (CO) and nitrogen oxides (NOx) emissions.

Item	GSR750	GSR600
Diameter	69.5 mm	76.3 mm
Length	120 mm	80 mm
Number of cells	300	200



#### benefit

• The number of cells in the catalyzer is increased to enlarge the surface area for increased contact between the exhaust gas contents and the catalyzer. This raises the catalytic conversion efficiency and improves the emissions cleaning performance.

## (3) Idle Speed Control (ISC)

#### Features

- ISC constantly maintains stable idling operation, greatly enhancing user comfort. The Engine Control
  module 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.
- 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.

#### benefit

 The ISC system improves starting, reduces cold-start emissions and stabilizes engine idle under varying conditions.

## Engine

## (4) Pulsed secondary-AIR (PAIR) injection system 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 HC and thus reduces CO emissions.



## Chassis



#### Chassis

#### 1. Summary

#### Features

- The unique chassis incorporates the best qualities of a compact tubular girder streetbike frame and a twin-spar sportbike frame, and is built using a combination of D-section and round-section steel tubes for an especially sporty, smooth ride.
- As measures to improve cornering performance on winding roads, the frame rigidity was further optimized, chassis alignment was modified, and the vehicle mass was centralized by using a lower-right-mounted muffler, instead of a center-mounted muffler.

ltem	GSR750	GSR600
Frame	Steel tube twin-spar	Aluminum cast alloy twin-spar
Overall length	2,115 mm	2,090 mm
Overall width	785 mm	795 mm
Overall height	1,060 mm	1,075 mm
Wheelbase	1,450 mm	1,440 mm
Trail	104 mm	104 mm
Caster	25° 20'	25° 15'
Seat height	815 mm	800 mm
Ground clearance	145 mm	130 mm
Fuel tank capacity	17.5 L	16.5 L
Curb mass	210 kg	208 kg



**GSR750** 



**GSR600** 

#### 2. Modifications of functional parts

## (1) Riding position and handlebars

#### Features

- The GSR750's sporty riding position is created by a carefully crafted relationship between the handlebars, footrests and seat.
- The rider leans the upper body more forward and put the legs more straight to the ground.
- As a result, the rider's posture becomes sportier and the access to the ground is improved.
- The handlebars are designed so that the rider more naturally puts his arms on handlebar grips.





#### benefit

• The riding position strikes a fine balance between a position suited to sporty rides and a position offering maximum riding comfort, thus allowing the rider to feel very much at one with the machine.

#### Chassis



- GSR750 frame uses D-section tubes on the upper frame rails, for a slimmer design and improved riding position.
- Each section is carefully designed and reinforcement is added, to balance the rigidity and flexibility.
- The seat rail is made of steel tube, and now welded to the frame.



ltem	GSR750
Frame type	Twin spar
Frame material	Steel tube
Seat rail material	Steel tube
Seat rail construction	Welded

#### Benefit

• The use of steel helped allow the frame design to be kept slim to realize the styling concept.



- The black, rectagular-section steel swingarm is also designed to work well the engine character.
- The swingarm is also designed to be matched with the frame design of GSR750.



#### Chassis

### (4) Front suspension Features

- The inverted front forks are used to reinforce the styling concept and provide good riding performance.
- The preload is fully adjustable.
- The steering stem, upper and lower brackets are also designed for the inverted front forks.



ltem	GSR750
Туре	Inverted telescopic, coil spring, oil damped
Brand	КҮВ
Inner tube diameter	41 mm
Front fork stroke	120 mm
Compression adjustability	No
Reboud adjustability	No
Preload adjustability	Fully adjustable

#### Benefit

- Inverted front forks help reduce unsprung weight. Unsprung weight, which is the weight of the components between the suspension (or springs) and the pavement, has a huge effect on each wheel's ability to stay in contact with the pavement.
- The suspension's improved smoothness of operation translates into better response to road imperfections, by which the vehicle's vibration is less transmitted to the rider, resulting in better riding comfort and handling performance.

## (5) Rear shock absorber Features

- The rear shock absorber is designed to work well for the GSR750.
- The diameter of the damper tube is 40mm.
- The preload is 7-way adjustable.
- The cushion lever is used to provide progressive movement to the rear wheel.



ltem	GSR750
Туре	Link type, coil spring, oil damped
Brand	КҮВ
Piston diameter	40 mm
Wheel travel	135 mm
Compression adjustability	No
Reboud adjustability	No
Preload adjustability	7-way adjustable

## (6) Front brake



• TOKICO-made fully floating 2-piston front brake calipers deliver confident brake performance.



Item	GSR750
Туре	Hydraulic, twin discs
Brand	ТОКІСО
Caliper type	Pin-slide, 2-piston
Caliper piston diameter	27 mm
Disc diameter	310 mm
Disc mount	Fully floating
Master cylinder piston diameter	14 mm
Optional ABS	Available

#### Chassis

## (7) Rear brake Features

- Pin-slide 1-piston rear brake caliper with 38mmdiameter piston
- The brake pedal is made of forged aluminum alloy.



Item	GSR750
Туре	Hydraulic, single disc
Brand	NISSIN
Caliper type	Pin-slide, 1-piston
Caliper piston diameter	38 mm
Disc diameter	240 mm
Master cylinder piston diameter	14 mm
Optional ABS	Available

\*An optional Antilock Brake System (ABS) will be available, with a new, more compact control unit.

(Please note that ABS is a supplemental device for brake operation, not a device for shortening stopping distance. Always remember to reduce speed sufficiency before approaching curves and corners.)

## (8) Tires Features

• The tires have a new pattern which works better with the GSR750.



ltem	GSR750
Front tire brand	Bridgestone
Front tire size	120/70ZR17M/C (58W), tubeless
Rear tire brand	Bridgestone
Rear tire size	180/55ZR17M/C (73W), tubeless



• The GSR750 features lightweight three-spoke cast aluminum wheels.





ltem	GSR750
Front wheel size	17M/C × MT3.50
Front wheel material	Cast aluminum alloy
Front wheel color	Black
Front wheel number of spoke	3
Rear wheel size	17M/C × MT5.50
Rear wheel material	Cast aluminum alloy
Rear wheel color	Black
Rear wheel number of spoke	3

## Chassis

### 3. Accessories

#### Features

• A selection of Suzuki Genuine Accessories are available for riders who want to customize their GSR750 and make it uniquely their own.



**Under cowl** 



**Meter visor** 



## 4. Body colors



Pearl Glacier White (YWW)



Glass Sparkle Black / Pearl Mira Red (JSP)



Glass Sparkle Black (YVB)

# Specifications



## Specifications

Dimensions and curb mass	
Overall length	2,115 mm (83.3 in)
Overall width	785 mm (30.9 in)
Overall height	1,060 mm (41.7 in)
Wheelbase	1,450 mm (57.1 in)
Ground clearance	145 mm (5.7 in)
Seat height	815 mm (32.1 in)
Curb mass	210 kg (463 lbs)
Engine	
Engine type	4-stroke, liquid-cooled, DOHC
Number of cylinders	4
Bore × Stroke	72.0 mm × 46.0 mm (2.8 in × 1.8 in)
Displacement	749 cm <sup>3</sup>
Compression ratio	12.3:1
Fuel system	Fuel injection
Air cleaner	Paper element
Starter system	Electric
Lubrication system	Wet sump
Drive train	
Clutch	Wet multi-plate type
Transmission	6-speed constant mesh
Gearshift pattern	1-down, 5-up
Primary reduction ratio	1.857 (78/42)
Gear ratio, Low	2.785 (39/14)
2nd	2.052 (39/19)
3rd	1.681 (37/22)
4th	1.450 (29/20)
5th	1.304 (30/23)
Тор	1.181 (26/22)
Final reduction ratio	2.470 (42/17)
Drive chain	RK525SMOZ8, 112 links

## Specifications

Chassis	
Frame	Steel tube twin-spar
Front suspension	Inverted telescopic, coil spring, oil damped,
	KYB, preload fully adjustable
Front fork stroke	120 mm (4.7 in)
Rear suspension	Link type, coil spring, oil damped
	KYB, preload 7-way adjustable
Rear Wheel travel	135 mm (5.3 in)
Caster	25°20'
Trail	104 mm (4.1 in)
Steering angle	33° (right and left)
Turning radius	3.0 m (9.8 ft)
Front brake	Disk brake, twin
Rear brake	Disk brake
Front tire size	120/70ZR17M/C (58W), tubeless
Rear tire size	180/55ZR17M/C (73W), tubeless
Electrical	
Ignition type	Electric ignition (Transistorized)
Spark plug	NGK CR9EIA-9 or DENSO IU27D
Battery	12V 36.0 kC(10 Ah)/10 HR
Generator	Three-phase A.C. generator
Fuse	30/10/10/10/10/15A
Headlight	12V 60/55W (H4)
Position light	12V 5W×2
Brake light / Taillight	LED
Turn signal light	12V 5W×4
License plate light	12V 5W
Speedometer light	LED
Neutral indicator light	LED
High beam indicator light	LED
Turn signal indicator light	LED
Oil pressure / Coolant temperature indicator light	LED
Fuel injection indicator light	LED
Immobilizer light	LED
Capacity	
Fuel tank	17.5L (4.6/3.8 US/Imp. gal)
Engine oil / oil change	3.2 L (3.4/2.8 US/Imp. qt)
With filter change	3.6 L (3.8/3.2 US/Imp. qt)
Overhaul	3.9 L (4.1/3.4 US/Imp. qt)
Coolant	2.8 L (3.0/2.5 US/Imp. qt)

