



PRESS INFORMATION

November 2023

GSX-S 1000 SX



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1. INTRODUCTION





GSX-S1000GX

While sharing its core elements with the other models in the GSX-S series, the GSX-S1000GX introduces new features and advanced functions that give it a unique position as Suzuki's new crossover proposition.

Like the GSX-S1000GT, it features the superbike-level performance, confidence-inspiring controllability, optimized comfort, connectivity and attention to detail one expects of a premium sport touring experience.

Though both the GX and GT belong to the GSX-S series, the differences are also significant. The GX features a longer suspension stroke that contributes to its extended front and rear wheel travel, increased ground clearance and comfortable upright riding position. Furthermore, it achieves a whole new level of suspension performance by introducing Suzuki Advanced Electronic Suspension (SAES) – Suzuki's first electronic suspension – and by adopting Suzuki's original new Suzuki Road Adaptive Stabilization (SRAS) system. These technologies combine to make the GX comfortable and controllable on road surfaces ranging from urban asphalt and cobblestones to paved country and winding mountain roads.

The result is an exciting new crossover machine that sits comfortably between the sport tourers and adventure tourers. While delivering the aggressive superbike performance and sporty looks that distinguishes the GSX-S series, the GX also provides long-distance touring comfort thanks in part to its upright riding position and equipment features. Suzuki Advanced Electronic Suspension (SAES), the integrated riding modes and control provided by Suzuki Drive Mode Selector Alpha (SDMS-α) and other advanced systems help ensure comfort and controllability, even on cobblestones and other less than ideal road surfaces. This new model is well worthy of taking its place as the king of crossover touring comfort and riding pleasure, with a level of aggressive-looking supersport styling and attention to detail that will resonate soundly with discerning riders.

| Naked | Sport tourer | Crossover | Adventure tourer |
|--|--|---|---|
|  GSX-S1000 |  GSX-S1000GT |  GSX-S1000GX |  VSTROM1050 |

“The Supreme Sport Crossover”

The product concept, “The Supreme Sport Crossover”, envisions the GX’s role in the lineup as a new model that represents Suzuki’s vision of what a luxury crossover bike should offer. Strategically combining the best attributes of the GSX-S1000GT grand tourer and V-STROM 1050 sport adventure tourer, this new model offers riders the versatility of a bike built to be comfortable and easy to control and equally adept at satisfying the rider’s needs and mood, whether enjoying an aggressive sport run or touring long distances on most any kind of road the rider chooses to take.



* This photo includes optional accessories.

KEY PRODUCT FEATURES

Styling features:

- The styling aims to embody the concept of Suzuki's first luxury crossover model.
- Thoroughly modern design that speaks of aggressive superbike-level performance skillfully blended with grand touring elegance and the tall, upright riding position and long-legged proportions of an adventure tourer.
- New front cowl features a sharp nose that culminates at the compact LED low-beam headlight, with compact LED position lights running along the sides forming a sharp pair of "eyes".
- The contrasting coloring and upswept lines of the cowl's side panels create an aggressive yet sophisticated look that complements the tall seating position.
- Exposed side rails and gold-colored front forks and rear suspension motor unit contrast with the blacked-out muffler and engine to emphasize the long-legged nature of this crossover design.
- The lineup of three available body colors were carefully selected to convey the model's appeal.
- A custom ignition key sporting the GX logo on a gold background adds an extra touch of luxury.

Engine features:

- High-performance 999cm³ four-stroke liquid-cooled DOHC inline-four engine delivers smooth, consistently powerful output throughout its wide power band.
- The engine's broad, smooth torque curve and power delivery reduces fatigue when touring at highway speeds, while also delivering powerful acceleration when desired.
- The 4-2-1 exhaust system is tuned to feature powerful resonance while delivering a pleasing exhaust sound, while also satisfying Euro 5 emissions standards.
- Electronic throttle bodies help achieve an optimal balance between idling speed control and power output characteristics, while also contributing to Euro 5 compliance.
- The air cleaner box reduces intake resistance and provides a pleasing intake sound.
- The exhaust and intake cam profiles provide a fine balance of performance and controllability.
- Suzuki Clutch Assist System (SCAS) contributes to smooth shifting and realizes a light touch to clutch lever operation that helps reduce fatigue on long rides, especially when caught in busy traffic.

Chassis features:

- Compact, lightweight chassis is engineered to ably support the engine's superbike-level of performance and provide maximum control and comfort when riding for long distances on most any kind of road.
- The twin-spar aluminum frame is built to deliver nimble handling and great road holding ability that will go the distance.
- Exposed seat rails feature secure side case attachment points and a design allows for thicker, more comfortable seats for the rider and passenger.
- The aluminum swingarm provides great road holding ability, contributes to stability in high-speed corners and features the strength to withstand heavy loads.
- Handlebars featuring a wider grip and optimized position closer to the rider contribute to a comfortable upright riding position that reduces fatigue when touring or enjoying a sporty ride.
- Attractive 6-spoke cast aluminum wheels contribute to nimble handling, stability and all-round sporty performance.
- Dunlop SPORTMAX Roadsport 2 radial tires (120/70ZR17 at the front; 190/50ZR17 at the rear) are designed to perform optimally, provide sure grip and deliver the right combination of agility and stability.
- 4-piston Brembo mono-block front brake calipers mated with ø310mm floating-mount twin discs deliver strong, reliable braking performance.
- The standard-equipment rear carrier is handy and practical for carrying extra gear, while its integrated grab bars provide the passenger with a firm grip that makes riding more comfortable.
- Suzuki Advanced Electronic Suspension (SAES) leverages Hitachi Astemo (SHOWA) SFF-CA™ inverted telescopic front forks and a BFRC-lite® link-type mono-shock rear shock deliver a comfortable and controllable.
- Suzuki Floating Ride Control (SFRC) improves maneuverability and comfort by helping to keep the seat and handlebars stable while the wheels and tires absorb the bumps on the road.
- Measures to reduce vibration such as the floating handlebars and rubber-covered footrests, contribute to a more relaxing and less tiring touring experience.
- Both the rider and pillion seats feature a new cushion construction that helps maximize comfort on long rides.
- The 3-step height adjustable touring windscreen protects the rider to offer greater comfort and less fatigue on long rides.
- Standard-equipment knuckle covers protect the rider's hands from the elements and lend a look of tough, go-anywhere crossover touring performance.

SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.) features:

- Suzuki Drive Mode Selector Alpha (SDMS-α) offers integrated riding modes that provide the right balance of control and comfort under a wide variety of riding situations.
- Smart TLR Control integrates the Suzuki Traction Control System (STCS) with Lift Limiter and Roll Torque Control, enabling the rider to better control the bike under diverse and varying conditions.
- Active Damping Control offers four electronically controlled damping settings – Hard, Medium, Soft and a customizable User setting – to best match the SDMS-α riding modes or the rider's chosen preference.
- Suzuki Road Adaptive Stabilization (SRAS) activates automatically when riding on cobblestones or other uneven surfaces to provide a smoother ride with softer, more controllable throttle response.
- Electronic rear suspension preload settings offer a choice of four modes to match the load requirements of the moment.
- Ride-by-wire Electronic Throttle System gives greater controllability over the engine and helps harness that power effectively.
- Bi-directional Quick Shift System provides quicker, smoother, more assured upshifts and downshifts without operating the clutch lever.
- Smart Cruise Control continues to operate when using the Bi-directional Quick Shift system's clutch-free shifting, reducing fatigue and making the GX easier to operate on long rides.
- By intervening to control brake pressure while braking through corners, the Motion Track Brake System helps the rider better trace their intended line through the corner.
- Slope Dependent Control provides more stable braking by monitoring the bike's posture and optimizing ABS to match the grade and prevent rear wheel lift when travelling downhill.
- Suzuki Easy Start System starts the engine with just one quick press of the starter button, even without pulling in the clutch lever when the transmission is in neutral.
- Low RPM Assist helps ensure smoother starts when pulling away from a standing start or riding at low speeds.

Electric Equipment features:

- The 6.5-inch full-color TFT LCD multi-function display features a scratch-resistant surface, an anti-reflective coating, and support for displaying smartphone app content.
- Smartphone connectivity in conjunction with the free SUZUKI mySPIN app provides easy access to contacts, maps, music, phone, and calendar functions.
- USB outlet for charging the rider's smartphone is built into the left side of the TFT LCD instrument screen.
- A vertically stacked pair of distinctive hexagonal LED headlights creates a sharp look with unique character that makes the front end look light and ready for action.
- Sharp-looking compact LED position lights running along the sides of front cowl on an upswept angle add to the distinctive look of the front face.
- The LED rear combination light employs a design that emphasizes the stylish lines of the tail.

“Unbridled Elegance”

The design concept for the GSX-S1000GX, “Unbridled Elegance”, aims to create a new crossover expression, featuring styling that visually conveys both the potential of liberating superbike-level performance and of a capable adventure tourer that is ready to go anywhere. This blends harmoniously with attention to detail that reflects the level of elegance and sophistication that delivers comfort on long rides and makes touring a pleasure wherever the rider wishes to go.

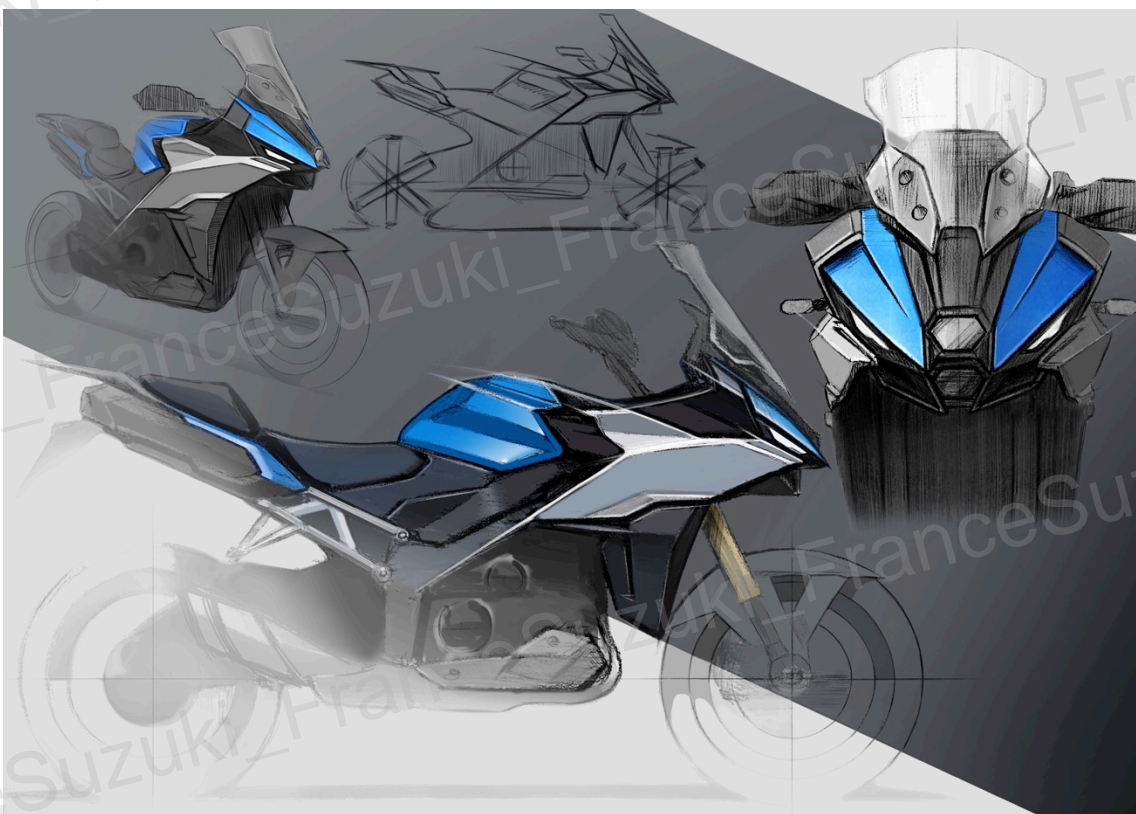


Image sketch

3. STYLING DESIGN

GSX-S1000GX

The bold face of a new crossover machine

The new front cowl features a sharp, protruding nose that culminates at the compact LED low-beam headlight. The headlight is flanked by LED position lights with the look of a sharp pair of “eyes” that introduce a dynamic sense of movement and express a youthful, sporty image.

In pursuit of the optimum aerodynamic form, and to keep the size relatively compact, the shape of the cowl was developed through rounds of analysis and wind tunnel testing until both the designers and engineers were satisfied. This results in improving comfort without sacrificing agility. The efforts of the development team also produced a multi-layered expression by which the shape and different coloring of the side panels give the cowl an aggressive look that at the same time complements the tall seating position. Further accentuating the image of a long-legged machine that is ready to go anywhere are the upswept lines on the side cowling panels combined with the mat silver exposed side rails and gold anodized front forks and rear suspension motor unit. These stand in contrast to the blacked-out muffler, engine and other parts that ride low on the GSX-S1000GX.



3. STYLING DESIGN

GSX-S1000GX

Body colors matched to the luxurious and aggressive crossover image

Metallic Triton Blue (YSF): Representing Suzuki's brand identity and competitive road racing history, this color features a sporty look that symbolizes performance, speed and agility.

Glass Sparkle Black (YVB): A combination of glossy and flat black that expresses fine finish and luxury.

Pearl Mat Shadow Green (QU5): Newly developed for the GSX-S1000GX, this color speaks of authenticity of which the owner will never tire, mature good looks and functional beauty. It blends equally well in urban environments or the great outdoors.



Metallic Triton Blue (YSF)

MAIN COLOR



Glass Sparkle Black (YVB)



Pearl Mat Shadow Green (QU5)

Subtle yet striking graphics

The logos on the side cowling panels adopt a design that is immediately recognizable as belonging to the GSX-S series, presenting the model name in large, bold fashion that adds a tasteful accent to the luxurious styling of this new crossover machine.



3. STYLING DESIGN

GSX-S1000GX

Key mascot

The custom-designed ignition key presents the owner with the GX logo in black lettering on a gold background. This adds a luxurious touch and aims to instill greater pride of ownership.



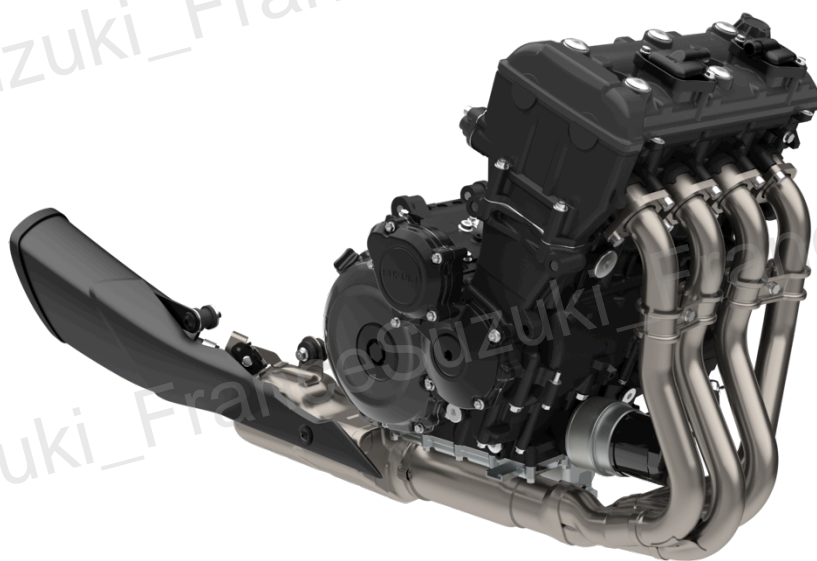
Introduction

The high-performance 999cm³ four-stroke liquid-cooled DOHC inline-four engine that powers the GSX-S1000GX performs optimally under all kinds of riding conditions and in all kinds of traffic, whether touring for long distances or out for a sporty run. A descendant of Suzuki superbike engines famed for their winning performance and reliability, the engine for the GSX-S series has undergone rounds of improvements and fine tuning over the years. It has evolved into a high-performance powerplant that is highly capable of supporting the luxurious and exciting crossover touring experience offered by the GX.

The elegance of controllable and reliable power

The engine delivers superbike-level performance, with smooth, consistently powerful output throughout its wide power band. This enhances the riding experience, both at the low- to mid-range engine speeds commonly used when touring and in daily riding, and through the mid- to high-range used when travelling long distances on the highway. Efforts to minimize vibration further contribute to a highly comfortable and less tiring ride.

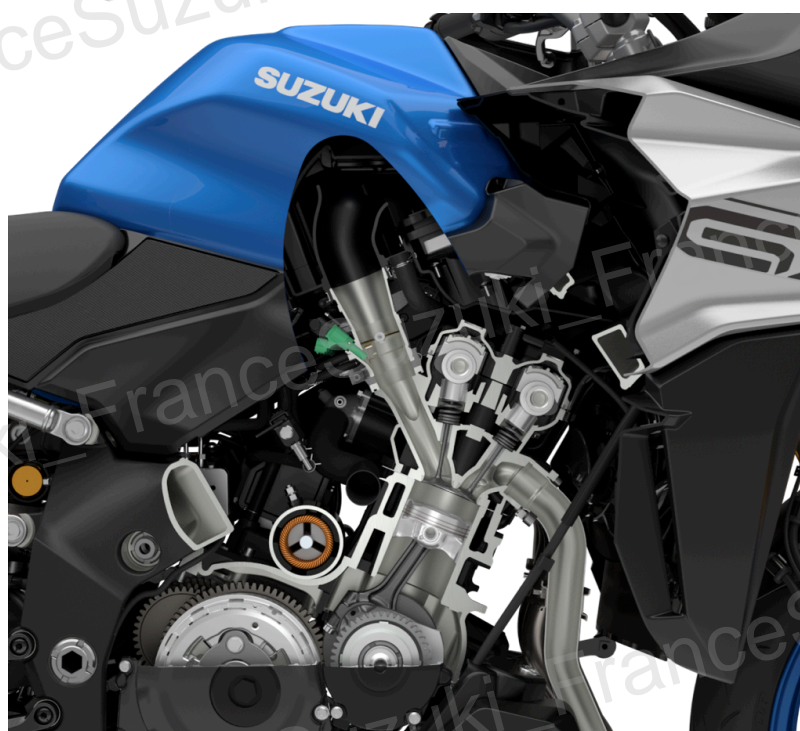
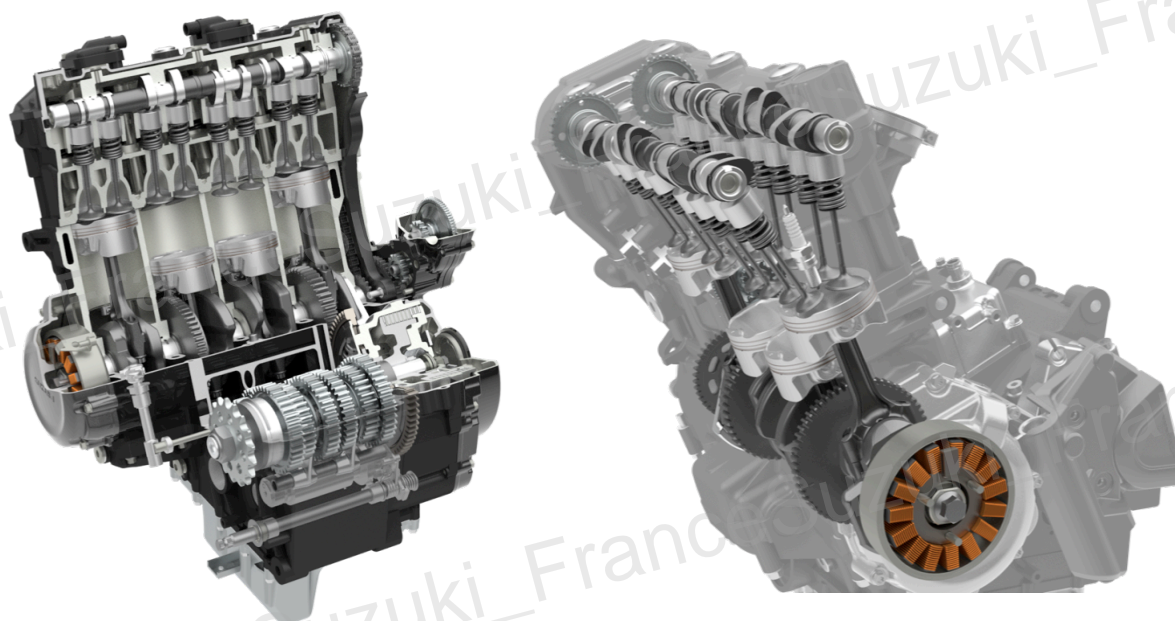
Features include a broad, smooth torque curve and power delivery that reduces fatigue when touring at highway speeds. This combines with a variety of electronic control technologies to offer fine control over power output characteristics and enable the rider to match torque output when opening the throttle to the type of ride or their riding style at any given time. This includes offering the excitement of powerful acceleration and all-round performance to support aggressive sport riding when desired. Combined with the agility and controllability to lean deeply into the corners, even with side cases attached, this performance multiplies the pleasure of riding and expands the variety of ways a rider can enjoy exploring their favorite sections of road.



999cm³ four-stroke liquid-cooled DOHC inline-four engine

4. ENGINE DESIGN

GSX-S1000GX



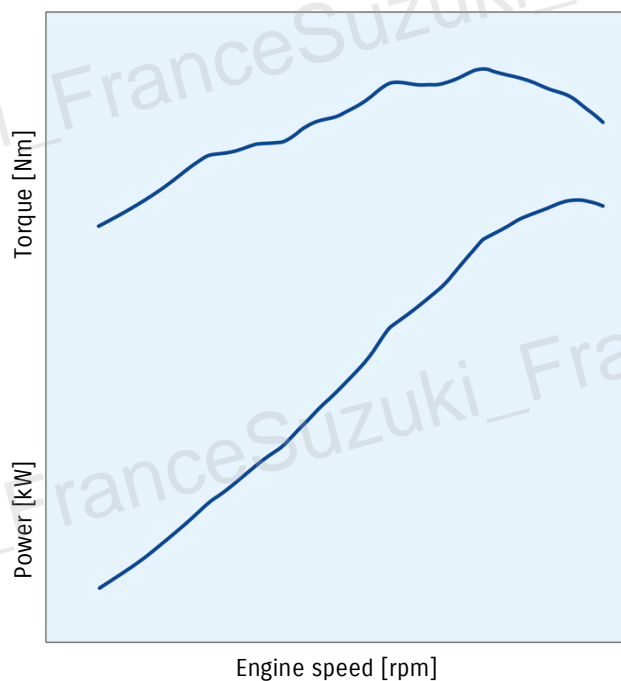
4. ENGINE DESIGN

GSX-S1000GX

| | |
|--------------------------------------|--|
| Displacement | 999cm ³ |
| Engine type | 4-stroke, 4-cylinder, liquid-cooled, DOHC |
| Bore x Stroke | 73.4mm x 59.0mm |
| Compression ratio | 12.2:1 |
| Maximum power | 112kW (152PS)/11,000rpm |
| Maximum torque | 106N·m/9,250rpm |
| Fuel consumption (WMTC)* | 16.1 km/L (6.2 L/100km) |
| CO ₂ emissions (WMTC)* | 144 g/km |
| Emissions level | Euro 5 |

*Actual fuel consumption and CO₂ emissions may differ owing to conditions such as the weather, road, rider behavior and maintenance.

Engine performance curve

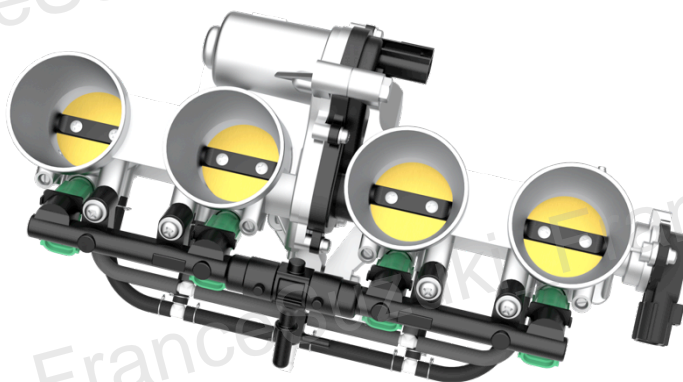


Exhaust system

The 4-2-1 exhaust system for the GSX-S1000GX features clean, sharp looks and an exciting exhaust note that is still gentle enough on the ears to allow both rider and passenger alike to enjoy long-distance touring. Its chamber structure and two-stage catalytic converter design contributes to maximizing overall performance while also satisfying Euro 5 emission standards. The short muffler is blacked out to help accentuate the bike's long-legged look and lend an added touch of elegance to the overall design.

Electronic Throttle Bodies

Electronic throttle bodies help achieve the right balance between idling speed control and power output characteristics, while their design also contributes to complying with Euro 5 emissions standards. Light and compact, these throttle bodies provide controllable behavior that can be customized to best match the type of ride and preferred riding style for any given outing. Another benefit of the fine control they provide is that it helps reduce fatigue on long rides.



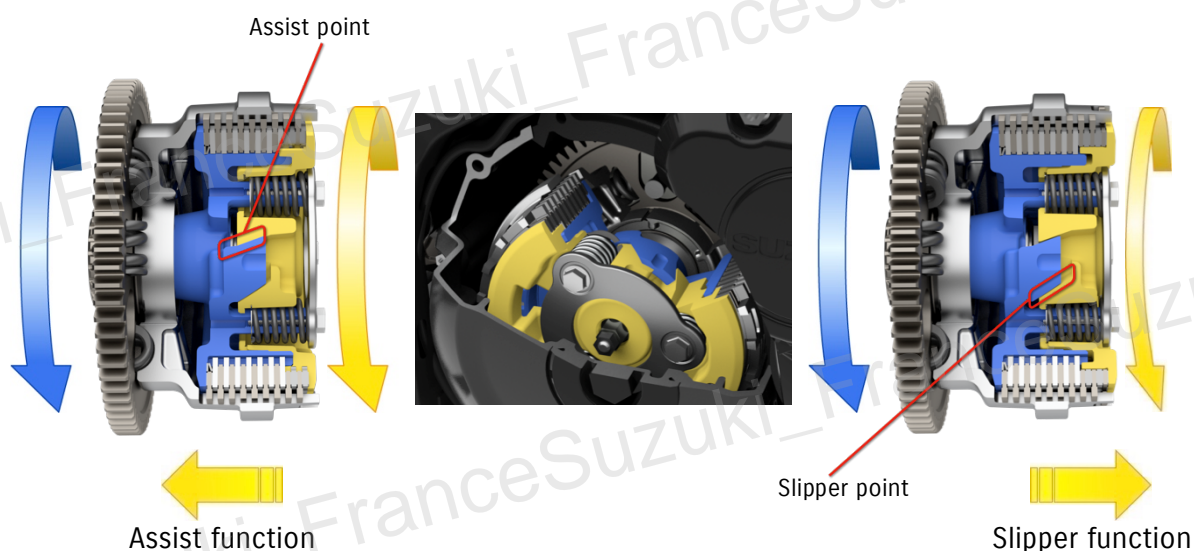
Suzuki Clutch Assist System (SCAS)

The assist function leverages precision-engineered ramps to force the clutch boss and pressure plate together and efficiently transfer torque to the rear wheel under acceleration, all while using softer clutch springs. One benefit is a light touch to clutch lever operation that reduces fatigue of the left hand when touring, when stuck in traffic jams, or in other situations that require frequent clutch lever operation.

The slipper clutch partially disengages when downshifting to decelerate to mitigate the effect of engine braking. By helping to prevent the rear tire from hopping and providing smoother deceleration, this function enables the rider to shift down with greater confidence and maintain better control.

SCAS works harmoniously with the Bi-directional Quick Shift system to deliver an additional benefit to the system's clutch-free shifting.

Suzuki Clutch Assist System cam operation diagram



Other features

- Suzuki Composite Electrochemical Material (SCEM)-plated cylinders reduce friction, promote better heat transfer and increase durability.
- Application of finite-element-analysis techniques make the pistons light without compromising their rigidity.
- The compact combustion chamber design realizes an optimal compression ratio, a flat-top piston shape, and a broad spread of power throughout the rev range.
- Iridium spark plugs heighten the spark strength and combustion efficiency, thereby contributing to higher power, more linear throttle response, easier engine start-up, and a more stable idle.
- 10-hole, long-nosed fuel injectors improve fuel atomization for better combustion efficiency and lower fuel consumption.

Introduction

Every aspect of chassis development focused on achieving the right balance of agility and controllability and comfort needed to realize a superior crossover riding experience. The end goal was to deliver satisfying sportbike performance that reflects the heritage of Suzuki's GSX-R1000, while also providing the real-world comfort, convenience and handling ease demanded of an adventure tourer.

Engineered for a Superior Crossover Riding Experience

Core strength is provided by a solid frame and swing arm that can ably support the engine's superbike-level performance. Extended wheel travel in both the front and rear helps smooth out rougher surfaces, while Dunlop SPORTMAX Roadsport 2 tires provide sure grip. The GX introduces Suzuki Advanced Electronic Suspension (SAES), featuring versatile settings that automatically adjust on the fly to match the riding conditions of the moment. Other details include an upright riding position and handlebars that contribute to controllability and stability. The harmonious mating of the chassis with the engine and advanced control systems of the Suzuki Intelligent Ride System (S.I.R.S.) also contributes to the realization of an exciting new riding experience.



5. CHASSIS DESIGN

GSX-S1000GX



Twin-spar aluminum frame with strong seat rails

The twin-spar aluminum frame for the GSX-S1000GX is built to deliver nimble handling and great road holding ability that will go the distance, even when carrying a passenger and a full load of gear. When viewed from the side, the main tubes run straight from the steering head to the swingarm pivot. This design helps achieve high rigidity and lighter weight.

The seat rails serve two benefits. Firstly, they provide rigid and secure attachment points for the optional side cases. Secondly, their relatively low height makes it possible to maximize the thickness of the pillion seat for greater passenger comfort. As a bonus, the exposed design adds to the striking look of functional beauty.



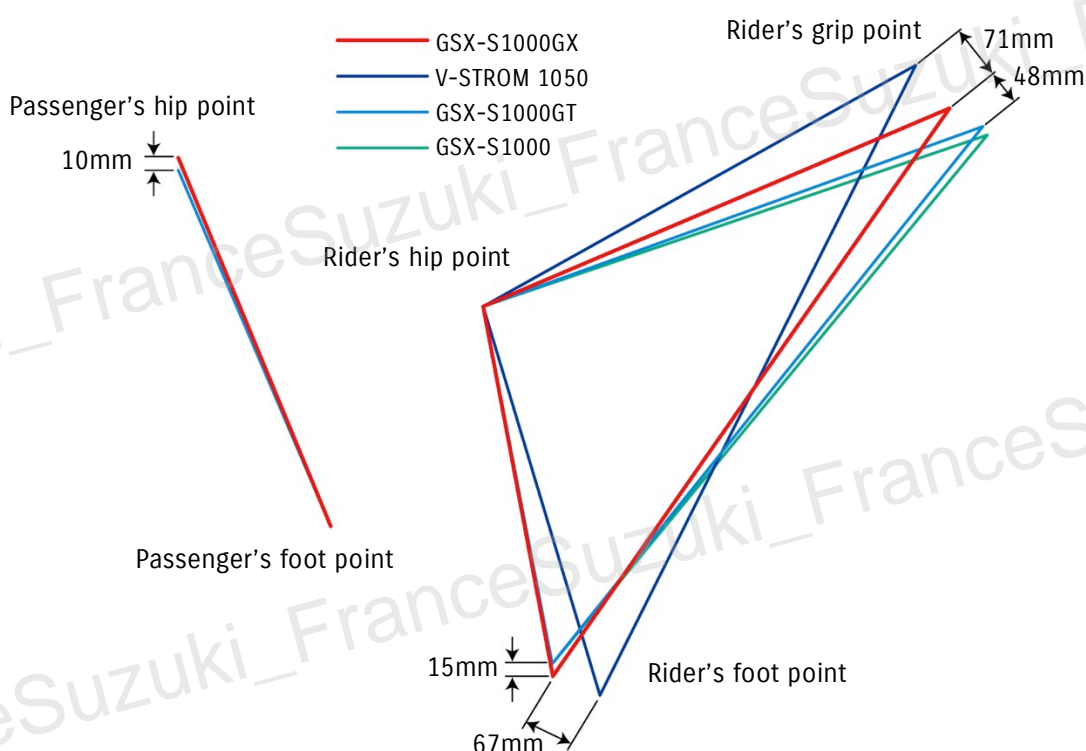
Aluminum swingarm

The sturdy aluminum swingarm comes straight from the GSX-R1000. Ruggedly braced and with the appeal of its superbike looks, this swingarm features great road holding ability and the strength to withstand long rides, heavy loads, and the demands of sporty runs.



Comfortable upright riding position

Research to find the optimum crossover touring riding position led to angling the handlebar grips 55mm closer to the rider than on the GSX-S1000GT. This allows the rider a more upright posture, which enhances comfort. The new handlebars are 50mm longer and feature a 14mm wider grip placement, making them comfortable to hold and giving the rider greater control over steering with less effort required. The extended suspension travel and new seat design also lengthen the distance between the rider's hip point and foot point by 15mm, which further contributes to comfort by reducing the amount of bending at the knees. The overall result is a comfortable upright riding position that is less tiring and provides greater control, whether touring long distances or heading out to enjoy a sporty run.



Wheels and tires

The lightweight, six-spoke cast aluminum wheels feature a highly appealing design that contributes to positive handling and sporty performance. They are shod with the latest generation of Dunlop SPORTMAX Roadsport 2 radial tires (120/70ZR17 at the front; 190/50ZR17 at the rear). Designed to perform optimally and provide sure grip, these tires have been fine-tuned specifically to match the weight and performance characteristics of the GX, and to deliver the right combination of agility and stability. Dunlop's proven tread pattern employs a silica compound that enhances positive grip in wet conditions and features durable wear resistance. They are a perfect match for Suzuki's new crossover proposition.

These wheels and tires work in harmony with the front and rear settings for the Suzuki Advanced Electronic Suspension (SAES) to maximize comfort on long rides while helping to achieve the great grip, stability and agility needed to support both long-distance touring and aggressive sport performance.



Rear Wheel and Tire



Front Wheel and Tire

SPORTMAX
Roadsport 2



Improved feel to initial throttle action

A small amount of play added in the APS (Accelerator Position Sensor) adds weight to the feeling as the throttle grip is first twisted. The 1mm of play added to the action helps prevent bumps in the road from causing the rider to accelerate unintentionally.

Fuel tank

The fuel tank boasts a capacity of 19L and a design that makes it appear compact. Its large capacity combines with the engine's excellent fuel efficiency to bring the rider greater peace of mind by blessing the GSX-S1000GX with superior touring range per tank of fuel.



Disc brakes

The GSX-S1000GX uses top-of-the-line radial-mount Brembo monobloc front brake calipers. Each caliper has four opposed $\varnothing 32\text{mm}$ pistons acting on a $\varnothing 310\text{mm}$ floating-mount disc for strong stopping power. A single hydraulic disc provides stopping power to the rear wheel.



Rear carrier with integrated grab bars

The GSX-S1000GX is fitted with a handy and practical standard-equipment rear carrier made of lightweight aluminum. Solid grab bars on each side provide the passenger with a firm grip, but are also designed to not interfere when removing the optional side cases. Because the carrier is a key visual accent at the rear, the design underwent a number of revisions in development to achieve the desired impact and presence.

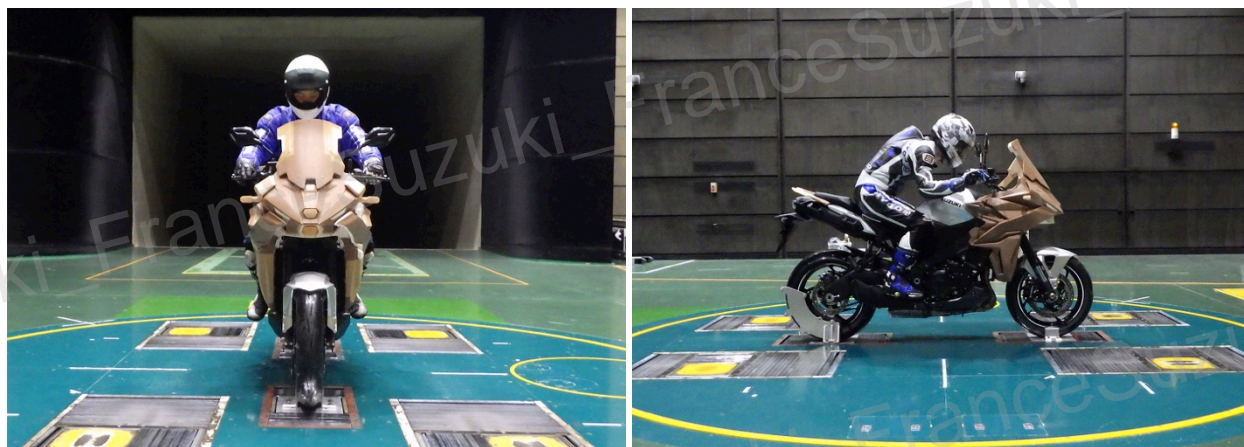
*Maximum load capacity: 6kg.



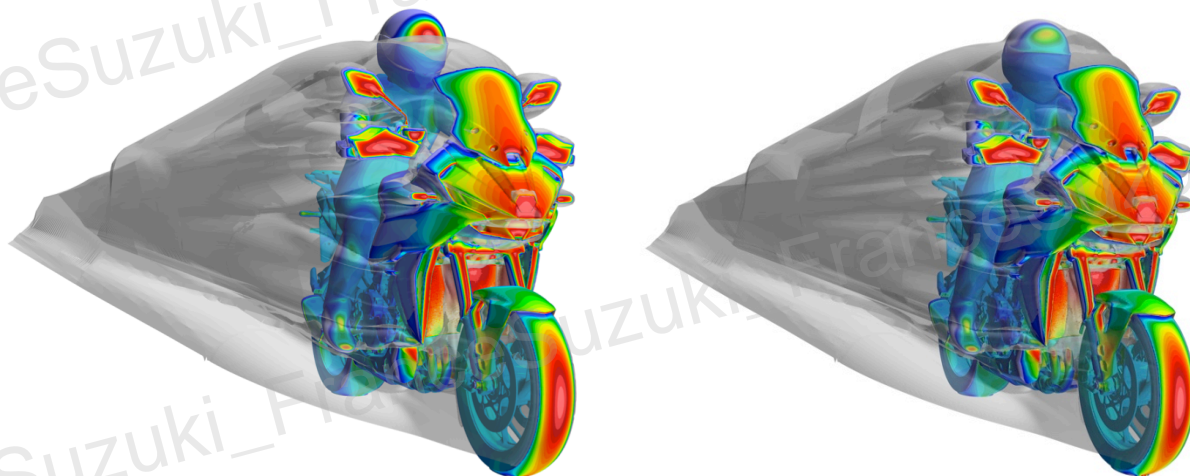
Aerodynamics and Wind Protection

Aerodynamics and wind protection are critically important to achieving the dynamic performance and level of comfort desired when touring for long distances on a large-displacement crossover machine.

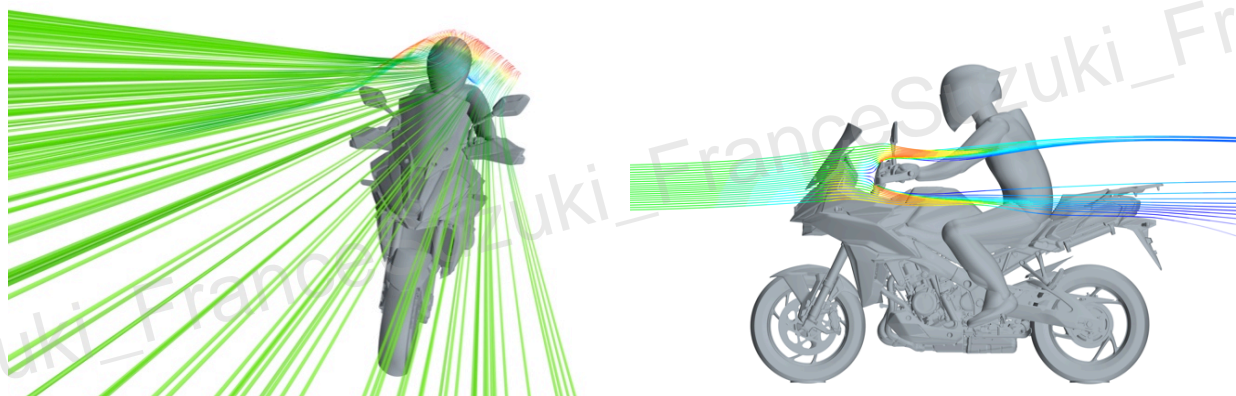
The front cowl, windscreen and knuckle covers were all designed through a process that involved both wind tunnel testing and feedback from test riders. This was performed while still paying keen attention to achieving attractive styling. The goal was to maximize wind protection and make the rider more comfortable by reducing sources of stress such as exposure to the cold and elements. This reduces fatigue when touring for long distances at speed and frees the rider to concentrate on enjoying each outing.



Wind Tunnel Testing



Simulation of wind protection coverage and wind pressure distribution
(Left: with windscreen in lowest position; Right: with windscreen in highest position)



Wind flow simulations

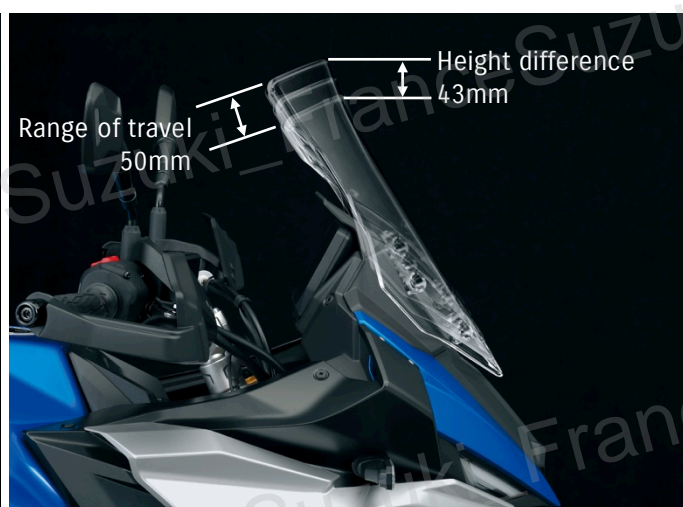
Front cowl designed to protect the rider

Attention to details on the front cowl includes a layered design that suppresses the generation of negative air pressure to help prevent head buffeting. In addition, holes placed strategically on face of the cowl are effective in reducing front lift. The width of the cowl was also widened to help better guide the flow of air away from the area of the abdomen so it doesn't cause discomfort, such as the rider's jacket blowing in the wind.

Windscreen

Development focused on maximizing wind protection to provide the rider with relaxing comfort that minimizes fatigue on long rides. Another design concern was to keep the form as compact as possible and to create an attractive screen that would enhance the appearance of the face. Development involved repeated rounds of wind tunnel testing and analysis as the design was refined until it achieved just the right overall balance of rider comfort and aerodynamic performance.

The windscreen's 3-step adjustment allows it 50mm of travel, which raises or lowers the height by up to 43mm.



Knuckle covers

Beyond their practical purpose of helping protect the rider's hands from the elements, including rain, wind and cold, standard-equipment knuckle covers accentuate the visual appeal of the GSX-S1000GX as a serious crossover model that is ready and capable for any journey.



Minimizing vibration to maximize comfort

The GSX-S1000GX is designed to provide maximum comfort for a more relaxing and less tiring touring experience. Attention to detail ranges from measures such as the floating handlebars and rubber footrests that aim to reduce vibration wherever the rider and passenger come into contact with the bike, and extend to the comfortable new seat design. In combination with features such as the light touch to the clutch lever delivered by SCAS, reduced operation of the throttle grip thanks to Smart Cruise Control, and of course the smooth, luxurious ride and tuned settings provided by the Suzuki Advanced Electronic Suspension (SAES) system add up to a superior crossover experience.



Locations of direct contact between body and bike

Floating handlebars

Rubber mounts introduced in the top bridge and handlebar brackets reduce the amount of vibration transmitted to the rider's hands, thereby contributing to reducing fatigue and improving comfort. It is of particular benefit on long rides or when touring.

The handlebars themselves are newly designed for the GX, employing a thicker t5.2 material thickness for greater rigidity and featuring a 14mm wider grip and overall length increase to 877mm.



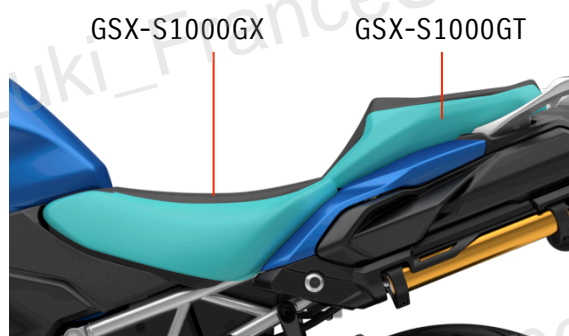
Floating mount mirrors

The mirrors complement the tough-looking styling of the GX, while the floating mount design employs rubber bushings to minimize vibration.



Comfortable seating

Both the rider and pillion seats are optimized to provide maximum comfort, even on long rides, and to enhance the riding experience. They also feature a sporty and attractive design. The rider seat cushion is 15mm thicker than on the GSX-S1000GT. To compensate for the increased thickness and realize the ideal level of comfort, we adopted a slightly stiffer setting for the cushion. In addition, its top surface is flatter from side to side than on the GT. This enhances comfort by increasing the area that supports the rider's weight from the middle to the rear of the seat, while the seat front is tapered to provide freedom of movement when enjoying a more aggressive sporty run. The pillion seat is 10mm thicker than on the GT, its firmness was revised for the GX, and its top surface made 26mm wider. This new design provides more stable and comfortable seating for the passenger. Both seats are covered in a skin material that provides positive grip.



Footrest rubber

The aluminum pegs of both the rider and passenger footrests are covered with vibration-absorbing rubber. This reduces the amount of vibration transmitted to the feet, which in turn lessens fatigue, especially on long rides. Additionally, the footrests are positioned lower so they require less bending of the knees and ankles and thereby help provide greater comfort.



Suzuki Advanced Electronic Suspension (SAES)

Basic layout

The GSX-S1000GX is the first Suzuki motorcycle to adopt Suzuki Advanced Electronic Suspension (SAES).

The GX was designed with an extended 150mm front suspension stroke and 150mm of rear wheel travel to realize an upright riding position that broadens the rider's field of vision and thereby provide greater comfort, even when touring for long distances. The longer suspension also makes it capable of absorbing larger bumps when riding over cobblestones and other uneven surfaces.

| Item | Front | Rear |
|--------------------------|--|--|
| Basic structure | SAES (with Active Damping Control) | |
| | SFF-CA™ (Cartridge type) | BFRC-lite® + Ride height |
| Features | Allows for a wide range of settings that cover Hard to Soft settings. | The balance free structure provides excellent damping response and a superior grip felt in all situations. This is a premium level component used on the GSX-R1000R. |
| Performance requirements | It helps deliver sport riding performance, fatigue-free ride comfort even on long rides, and comfort on uneven surfaces. | |
| Electric valve position | Fork cap | At the top of the damper |
| Stroke sensor | Inside the suspension. This allows for precise feedback that results in excellent responsiveness. | <ul style="list-style-type: none"> - Inside the rod cover: Same as for front suspension - Hydraulic jack: Stroke sensor for preload amount |

Suzuki Advanced Electronic Suspension (SAES) is based on a version of Hitachi Astemo's SHOWA EERA® series suspension tuned for the GSX-S1000GX.

SHOWA EERA® is an electronic version of the SFF-CA™ inverted telescopic front forks and BFRC-lite® link-type monoshock rear shock. It not only uses vehicle and speed information from the IMU and wheel speed sensors, but also from high-precision stroke sensors compactly integrated into both the front and rear suspension to instantly determine optimal damping in accordance with the suspension stroke speed and riding conditions. The result is a near-ideal ride quality.

Building on this base, proprietary programs such as Suzuki Floating Ride Control (SFRC) and Suzuki Velocity Dependent Control (SVDC) are tuned to for all the GX's suspension mode (H/M/S) settings. This provides an extremely comfortable and controllable riding experience, offering a wide range of electronic control settings suitable to a superior crossover machine that ably cover everything from sport riding to long-distance touring.

Thus, the GX becomes a formidable new crossover that combines the advantages of a long-stroke suspension with those of electronic suspension.

In addition, SAES operates more intelligently than conventional systems because its basic settings are managed by SDMS-α's integrated riding modes, providing greater comfort that allows any rider to fully leverage the performance potential of the GX.

The differences between conventional and electronic suspension



On conventional (mechanical) suspension systems, the amount of damping can only be adjusted manually and the amount of damping depends entirely on the amount of oil moved by the speed of the piston stroke.

In contrast, SAES adds an electronically-controlled hydraulic valve to the damping force generating unit, thereby electronically controlling the damping adjustment mechanism without compromising the basic performance of conventional mechanical suspension systems. This allows a wider range of variable damping force settings to better cover everything from sport riding to comfortable touring, and to respond to varying load and road surface conditions.

Suzuki Advanced Electronic Suspension (SAES) – Front

The right fork has a stroke sensor inside that measures the current piston position to the nearest 1/1000 of a millimeter and adjusts the damping 1000 times per second according to the current stroke volume and stroke speed.

The left fork contains the damping cartridge.

- > The solenoid valve's thrust (pushing force) adjusts the damping for rebound and compression.
- > Continually adjusts damping while changing the settings on the fly.



Suspension Stroke Sensor

Solenoid valve



A solenoid valve (electromechanically operated valve) adjusts both the rebound and compression damping. The stronger it pushes on the suspension's flow path, the stronger the damping and harder the suspension setting.



Suzuki Advanced Electronic Suspension (SAES) – Rear

Preload adjustment for the rear suspension is electronically controlled. The suspension is equipped with a structure that automatically changes the rear preload setting, allowing the setting for the rear suspension to be changed independently. (Oil is sent out by a DC motor on command to change the preload setting of the rear suspension.)



Motor Unit

There is oil inside that rotates the DC motor and causes the divider plate to move back and forth, changing the force (hydraulic pressure) with which the oil pushes. As a result, the main spring pushed by the oil moves up and down.

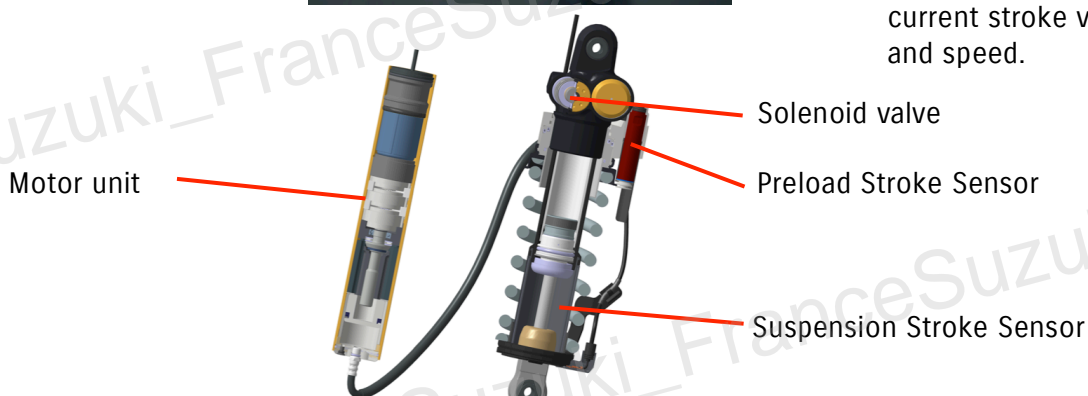
A stroke sensor here monitors the spring's current position and automatically changes the preload setting accordingly.

A solenoid valve housed inside changes the volume of oil, which in turn changes both rebound and compression damping.

The large main spring can be raised and lowered hydraulically.



A stroke sensor housed beneath the black cover measures the current stroke position to the nearest 1/1000 of a millimeter and adjusts the damping 1000 times per second according to the current stroke volume and speed.



Motor Unit



Suspension Control Unit (SCU)

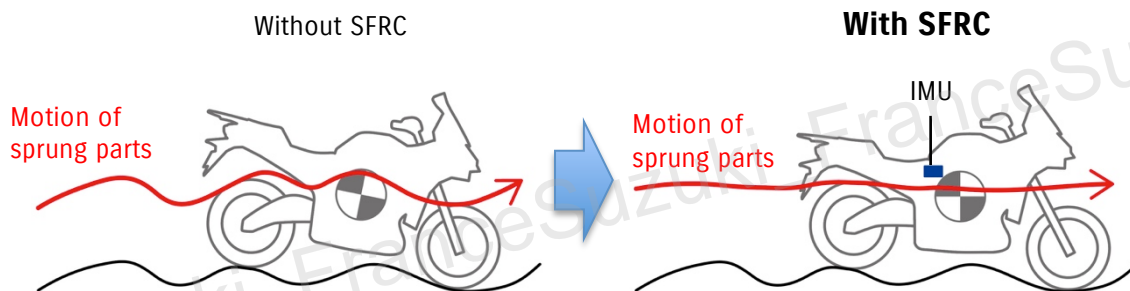
Original Suzuki programs integrated into SAES

SAES functions realized in part by the introduction of an IMU include Suzuki Floating Ride Control (SFRC), a program that further improves tracking and comfort in response to road surface changes, Suzuki Velocity Dependent Control (SVDC), a program that monitors vehicle speed and optimizes suspension settings for that speed, and Suzuki Deceleration Damping Control (SDDC), program, which smoothly converges changes in vehicle attitude due to braking and controls damping force to achieve an ideal pitch motion.

Suzuki Floating Ride Control (SFRC)

Input from the IMU and the front and rear suspension stroke sensors are used to monitor the motion of the motorcycle's sprung weight in relation to an imaginary reference point directly above from which the front and rear are suspended in theory, as though hanging from a hook in the sky. In turn, the SCU (Suspension Control Unit) adjusts the damper settings on the fly to keep the seat and handlebars stable while the wheels and tires absorb the bumps on the road, improving maneuverability and comfort.

The advanced system employed by the GSX-S1000GX is set to respond optimally at once to three types of motion and thereby respond to a wide range of riding conditions.



Though SFRC is always active, it is set to intervene only minimally when on smooth surfaces as not to effect on-road performance. Its effect becomes stronger when riding over uneven surfaces, but even then it does not attempt to completely level out the ride. This is because the rider perceives changes in the bike's posture and intuitively uses those to control it. Too smooth a ride would inhibit this feeling of connection between the rider, the motorcycle and the road.

SFRC adjusts damping force to match Active Damping Control's (Hard, Medium, or Soft) settings.

Suzuki Velocity Dependent Control (SVDC)

SAES also incorporates Suzuki's original Suzuki Velocity Dependent Control program.

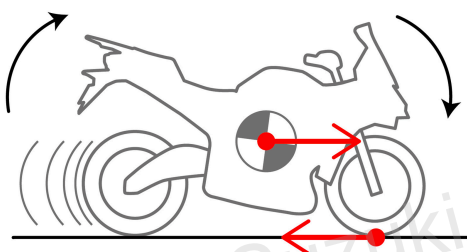
Under normal operation, the front and rear suspension reproduce the damping characteristics of each specified mode according to the suspension stroke speed.

However, this program introduces the parameter of vehicle speed data received from the CAN bus to optimize damping control to match the current speed, thereby achieving positive handling at low speeds as well as reassuring stability at high speeds.

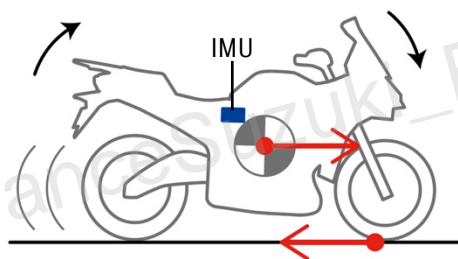
Suzuki Deceleration Damping Control (SDDC)

As with SVDC, this program reproduces the damping characteristics defined by each specified mode under normal operation. However, Suzuki Deceleration Damping Control applies deceleration G force as a parameter based on the IMU data, and controls the optimal damping force so that the vehicle attitude change caused by the brakes converges smoothly. This provides an ideal pitch motion that does not interfere with the rider's action when braking, thus achieving a high level of comfort.

Without SDDC



With SDDC



Introduction

The Suzuki Intelligent Ride System (S.I.R.S.) is comprised of a collection of advanced electronic rider assist systems. Each provides settings the rider can choose from freely to best suit their level of skill and experience, their current mood, and the number of people and amount of gear they plan to carry. These settings optimize performance characteristics for such riding conditions as well as the road surface at any given moment. They help make the GX more controllable, predictable, remarkably comfortable and less tiring to operate. With each system designed and thoroughly tested to operate as expected, S.I.R.S. helps realize an exciting riding experience that inspires confidence and frees riders to concentrate on enjoying the journey.

The robust collection of systems custom-tuned for the GX aim not only to put the latest high-spec technologies in the hands of all riders, but also to make it easy for all riders to fully enjoy using them. The GX is the first motorcycle in the GSX-S series to adopt Suzuki Drive Mode Selector Alpha (SDMS-α), which features integrated management over Power Mode, Smart TLR Control and Active Damping Control settings. Other systems being newly introduced include the Motion Track Brake System, Smart Cruise Control, and the Slope Dependent Control System. And S.I.R.S. for the GX also includes the Ride-by-wire Electronic Throttle System, Bi-directional Quick Shift System, Suzuki Easy Start System, and Low RPM Assist.

Suzuki Intelligent Ride System (S.I.R.S.)

- 1 Suzuki Drive Mode Selector Alpha (SDMS-α)**
 - 1-1 Power Mode**
 - 1-2 Smart TLR Control**
 - a) Suzuki Traction Control System (STCS)
 - b) Lift Limiter
 - c) Roll Torque Control
 - 1-3 Active Damping Control**
- 2 Suzuki Road Adaptive Stabilization (SRAS)**
- 3 Automatic Rear Suspension Modes**
- 4 Ride-by-wire Electronic Throttle System**
- 5 Bi-directional Quick Shift System**
- 6 Smart Cruise Control**
- 7 Motion Track Brake System**
- 8 Slope Dependent Control System**
- 9 Suzuki Easy Start System**
- 10 Low RPM Assist**

6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX

1. Suzuki Drive Mode Selector Alpha (SDMS-α)

The GX follows Suzuki's flagship Hayabusa model in adopting SDMS-α, which features integrated management of multiple advanced electronic control systems.

The three integrated riding modes of SDMS-α control power output characteristics, as well as the level of Traction Control (with integrated Lift Limiter and Roll Torque Control) and Active Damping Control (with Suzuki Floating Ride Control). Riders can opt to use the factory default settings or customize some to match their needs or preferences more closely.

In addition, Suzuki's original new Suzuki Road Adaptive Stabilization (SRAS) program works in conjunction with SDMS-α to seamlessly switch between settings that better smooth out the bumps when the GX rides over cobblestones or other uneven surfaces, and those that prevent interfering with positive response when riding on good roads.




Using SDMS-α can be as easy as choosing between the factory default settings for the three modes, as shown below. Each is carefully tuned, tested and recommended by Suzuki's engineers.

A (Active) mode is designed for the more aggressive riding style of a sporty run on good roads, setting the power output mode to level "1", the traction control system to level "2", and the suspension's active damping control level to "Hard".

B (Basic) mode is set up to deliver a satisfying balance of settings good for a broad range of riding situations, setting the power mode to level "2", the traction control system to level "4", and the suspension's active damping control level to "Medium".

C (Comfort) mode aims to prioritize comfort and controllability, particularly when riding long distances or carrying a passenger and gear. It sets the power mode to level "3", the traction control system to level "6", and the suspension's active damping control level to "Soft".

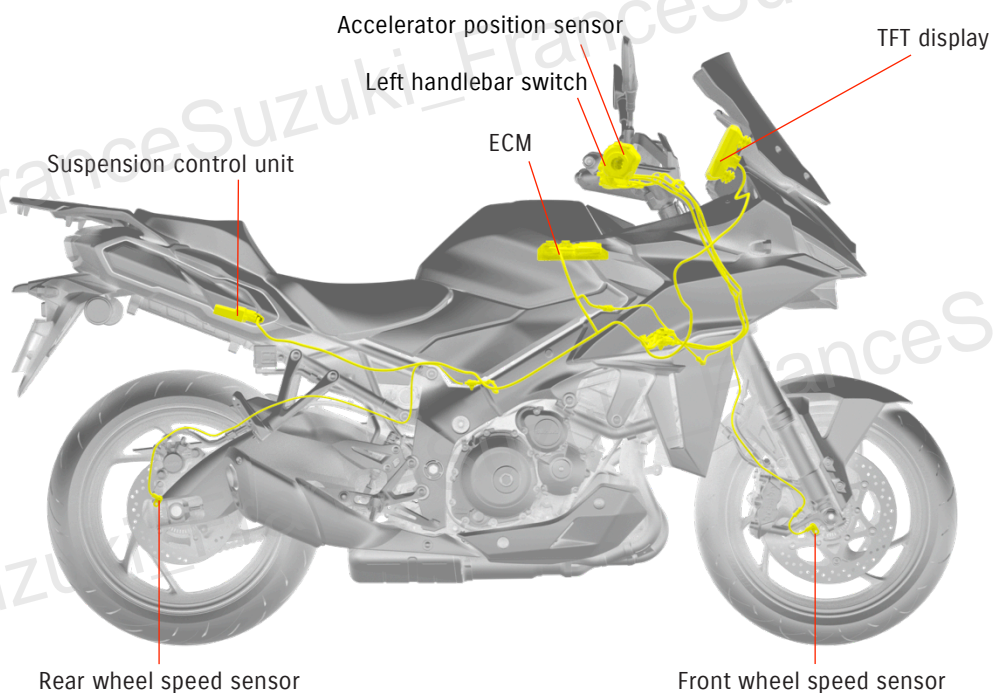
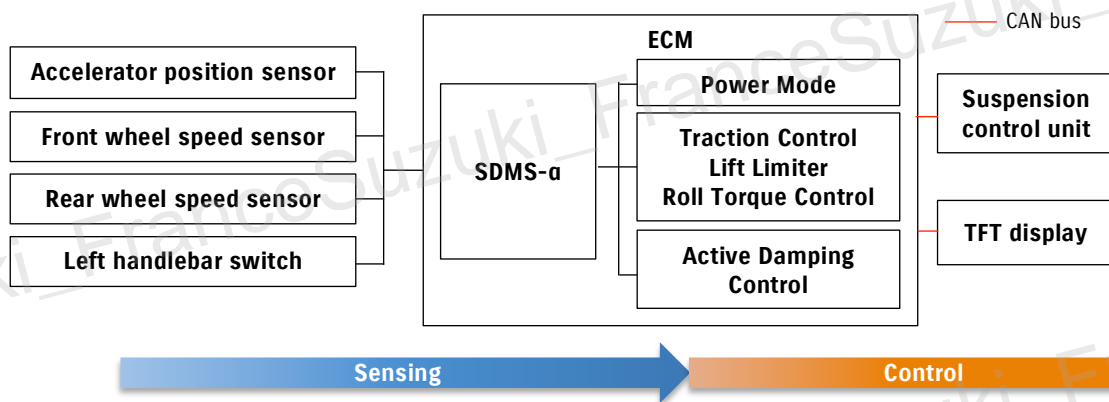
Meter Display Image

| A (Active) mode | B (Basic) mode | C (Comfort) mode |
|---|---|---|
|  |  |  |

6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX

Suzuki Drive Mode Selector Alpha overview diagram



6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX

When riding on normal road surfaces

* Blue characters are controls that operate in the background, (i.e., that the rider does not interface with)

| | Suzuki Drive Mode Selector Alpha (SDMS-α) | A (Active) mode | B (Basic) mode | C (Comfort) mode | No. of levels |
|---|--|--------------------|-------------------|---------------------|------------------|
| When riding on normal road surfaces | Power Mode level | 1 | 2 | 3 | 3 |
| | Traction Control level (with integrated Lift and Roll Torque Control) | 2 | 4 | 6 | 7 + OFF |
| | Active Damping Control level (with SFRC set to not interfere with performance) | Hard | Medium | Soft | 4 (3+“U”) |

Factory default settings for each SDMS-α mode

Notes

Power Mode level

- Level 1 delivers the sharpest response
- Settings are fixed, (e.g.: Riding mode A sets power mode to level 1 and this cannot be changed)

Traction Control level

- The higher level the setting, the more proactive the system is in limiting wheel spin.
- The rider can change the traction control setting, (e.g.: Traction control can be set to level 7, even when using SDMS-α riding mode A)
- Lift Limiter and Roll Torque Control levels are determined by the Traction Control level setting and not user accessible.
- Turning off Traction Control also turns off Lift Limiter and Roll Torque Control.

Active Damping Control level

- The rider can select a different setting, (e.g.: Active Damping Control can be set to “Soft”, even when using SDMS-α riding mode A.)
- The Suzuki Floating Ride Control (SFRC) level is determined by the Active Damping Control setting.
- The user-defined “U” setting offers a choice of “Hard”, Medium” or “Soft” suspension settings with separate adjustments of ±3 increments for the front and rear suspension.

Riders can also customize some of the settings for the three integrated riding modes to suit their needs or preferences. While the power output settings for each SDMS-α riding mode are fixed, the rider can opt to select from one of the 7 available setting levels for Traction Control, (or turn it OFF), and one of the 4 available settings for Active Damping Control.

6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX

1-1. SDMS-α: Power Mode (Control over engine output characteristics)

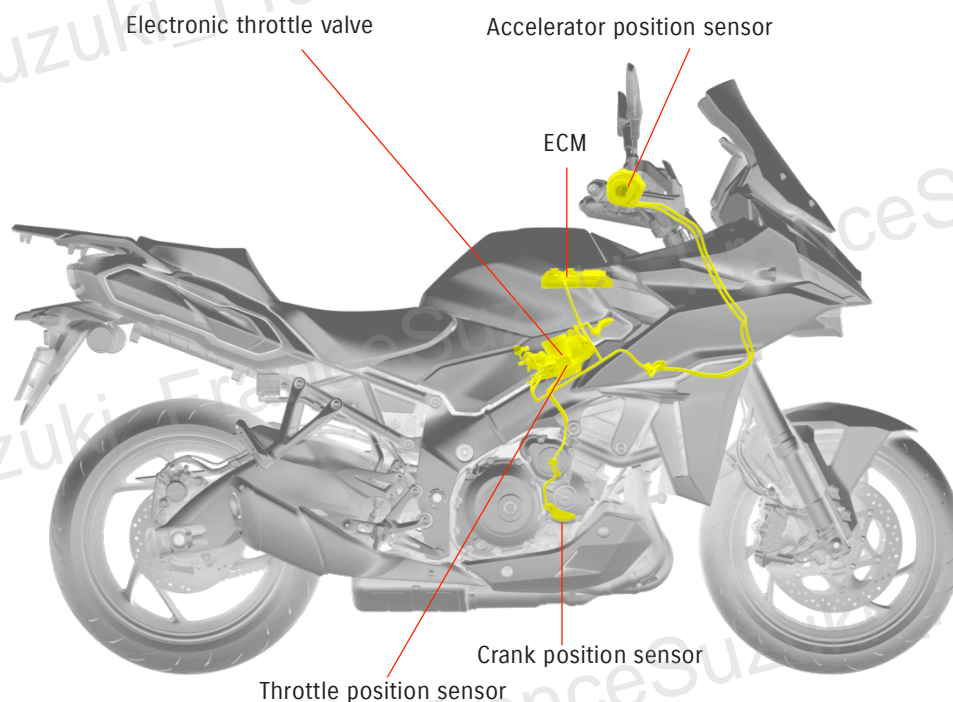
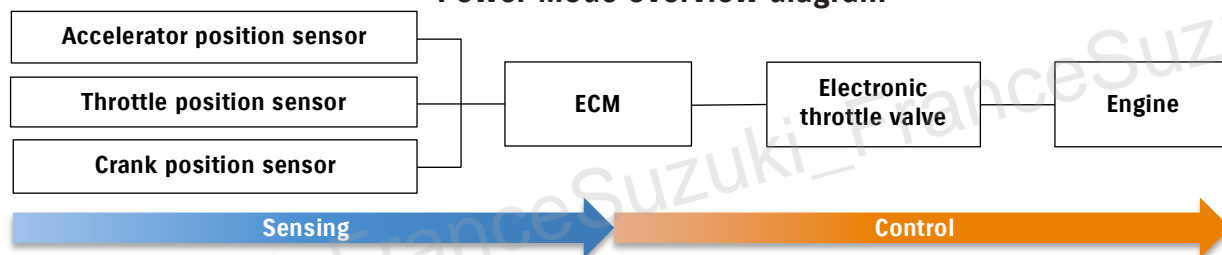
The rider can select between three modes that deliver different power characteristics to match the conditions of the riding scene, surface conditions, or preferred riding style for any given outing. The effect is particularly noticeable when turning the throttle grip between a slightly open position to when it reaches the top of the mid-speed range under acceleration. The settings for each mode are custom-tuned and thoroughly tested to maximize the GX's capabilities as a luxury crossover machine, to build in the flexibility to adapt well to changing weather, road, and riding conditions, and to make the overall riding experience more enjoyable.

Power Mode level 1 provides the sharpest response as the throttle is opened. Tuned to deliver exciting acceleration and fully leverage the engine's power, it is well suited for enjoying aggressive runs on good pavement.

Power Mode level 2 reaches the same level of maximum output, but features a more linear curve with softer throttle response. The aim is to deliver a satisfying balance of settings that make a good fit for a broad range of riding styles and road conditions.

Power Mode level 3 aims to prioritize comfort and controllability by offering the softest throttle response and more gentle torque characteristics. This setting is a good choice when riding long distances, or when carrying a passenger and gear.

Power Mode overview diagram



6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX

1-2. SDMS-α: Smart TLR (Traction, Lift and Roll Torque) Control

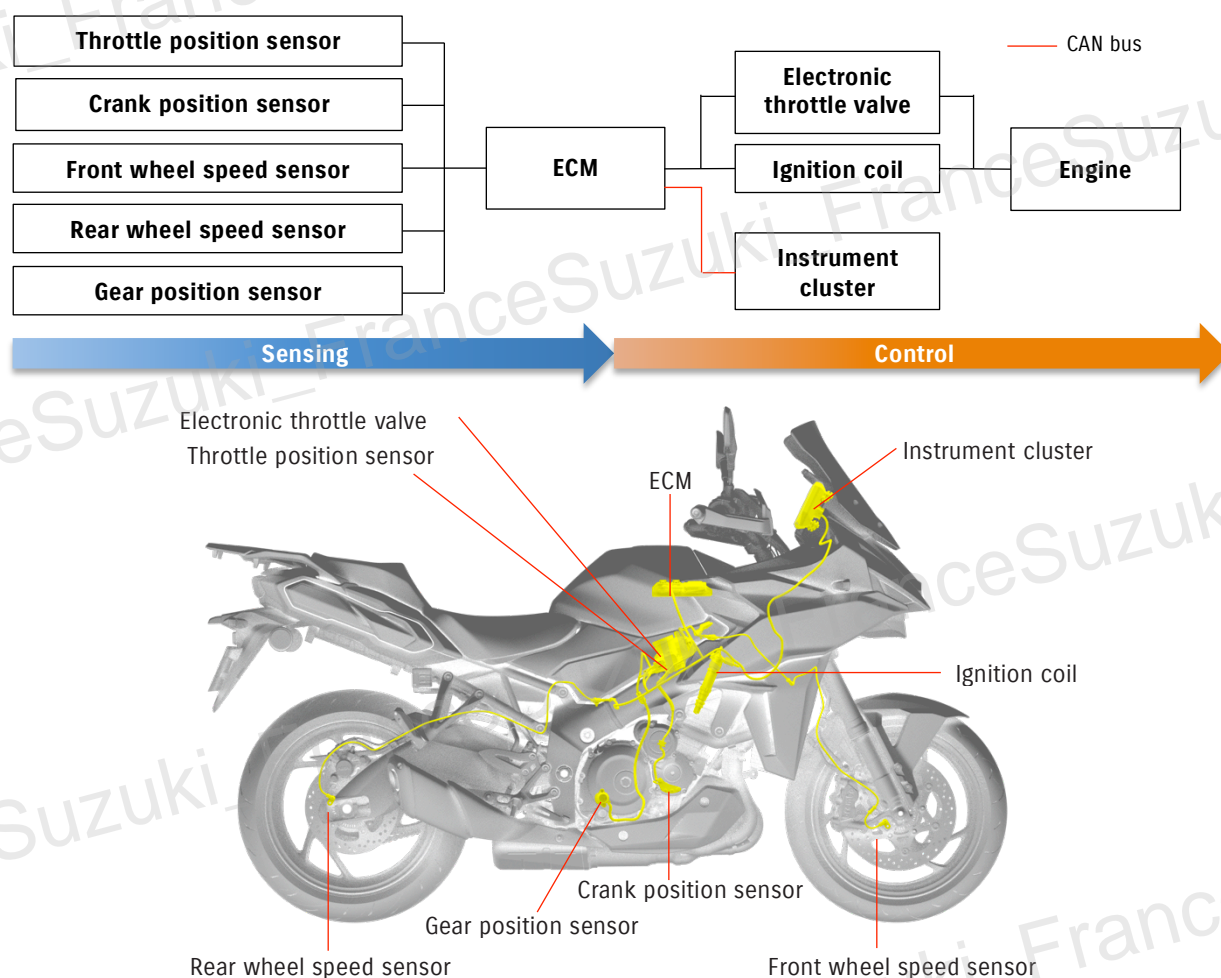
a) Suzuki Traction Control System (STCS)

The Suzuki Traction Control System enables the rider to better control the bike under diverse and varying conditions, whether riding alone or with a passenger, and regardless of weather or road conditions. STCS not only reduces stress and fatigue but, by giving the rider greater control over the bike's behavior, it instills greater confidence regardless of their level of experience.

STCS for the GX is designed to support the fine incremental control of SDMS-α's integrated riding modes. In addition to the default SDMS-α settings, the rider can choose from one of seven selectable level settings to match the rider's preferences or the riding conditions of the moment, or opt to turn the system off. The higher number the mode, the faster the control takes effect and the more proactive the system is in limiting wheel spin.

The system is programmed to continuously monitor front and rear wheel speed, engine RPM (as calculated using data from the crank position sensor), throttle position and gear position. It is designed to immediately limit power and help prevent slipping when an imminent loss of traction is detected by retarding the ignition timing and limiting the throttle opening.

Suzuki Traction Control System overview diagram



Note: The Suzuki Traction Control System is not a substitute for the rider's throttle control. It cannot prevent loss of traction due to excessive speed when entering turns, or while braking. Nor can it prevent the front wheel from losing traction.

6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX

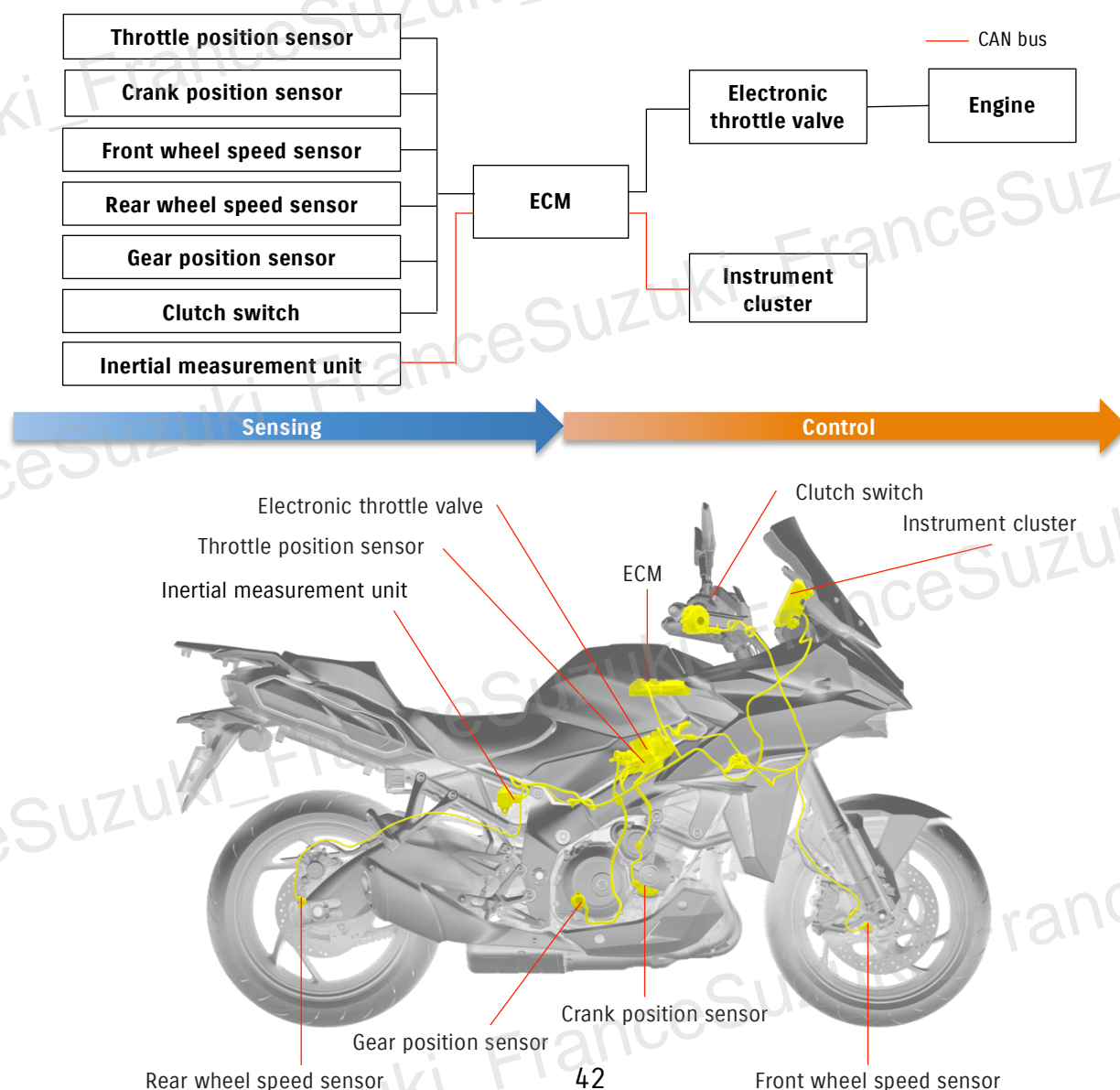
b) Lift Limiter

The GX adopts Lift Limiter, which brings added peace of mind to riders by helping prevent the front wheel from lifting off the ground when accelerating. Lift Limiter works silently in the background, with its settings being determined by the STCS level setting.

In addition to monitoring engine RPM (as calculated using data from the crank position sensor), the GX's ECM monitors throttle position, gear position and clutch switch status, and processes that data along with input from the front and rear wheel speed sensors and the IMU to determine the appropriate amount of output to deliver in response to operation of the electronic throttle control. Keen attention to detail and thorough testing went into tuning the respective settings for this intelligent control scheme to provide the benefit of this control feature, but only while at the same time providing riders with the powerful feeling of acceleration expected of a GSX-S series motorcycle. This ranges from a low setting that prioritizes performance to a high setting that takes effect before the front wheel begins to lift.

A flashing "LF" mark appears on the TFT LCD meter panel to inform the rider when Lift Limiter is active.

Lift Limiter overview diagram



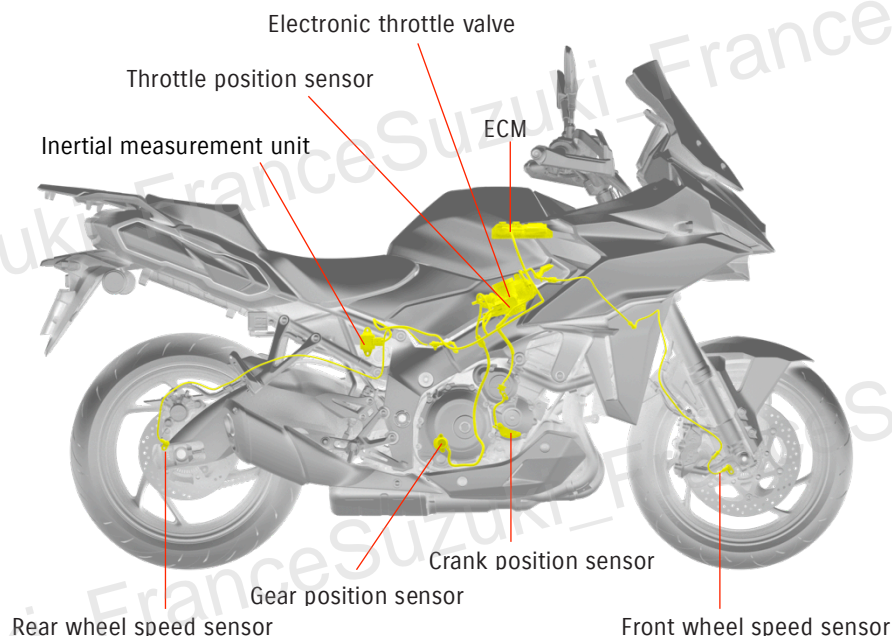
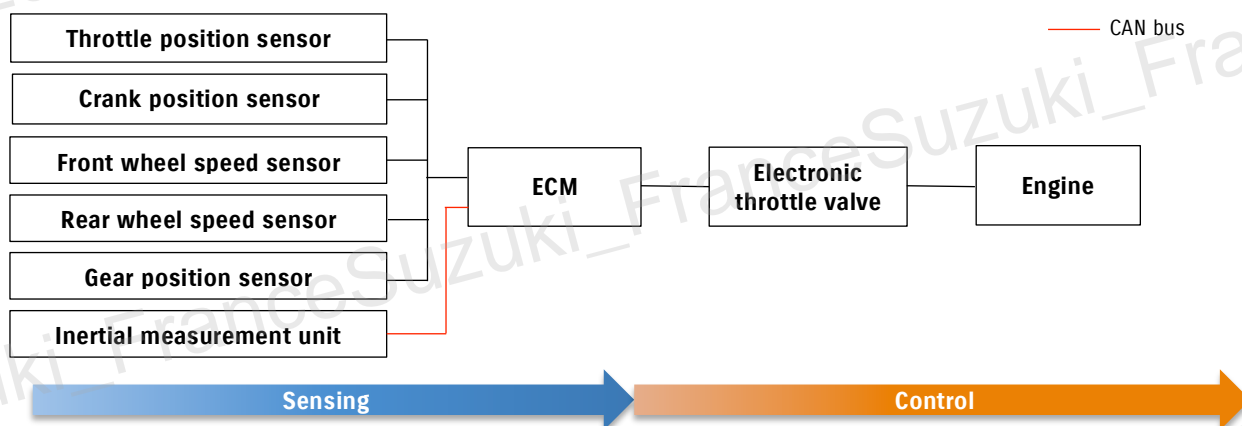
6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX

c) Roll Torque Control

Roll Torque Control, a Suzuki first, is an intelligent system that, based on data received from the IMU and wheel speed sensors, calculates the bike's lean angle and speed to predetermine what level of power output and acceleration is optimal for a given corner. It then reduces *torque* output before the motorcycle exceeds the amount of power the system deems necessary to clear the corner effectively. The result is an extra layer of preemptive protection that operates silently in the background, with its settings being determined by the STCS level setting.

Roll Torque Control overview diagram



The development team devoted considerable time and effort to fine tuning the settings for both Lift Limiter and Roll Torque Control so they work optimally in conjunction with the rider's selected STCS mode, with the end goal being to enhance controllability and provide riders with the greater confidence.

6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

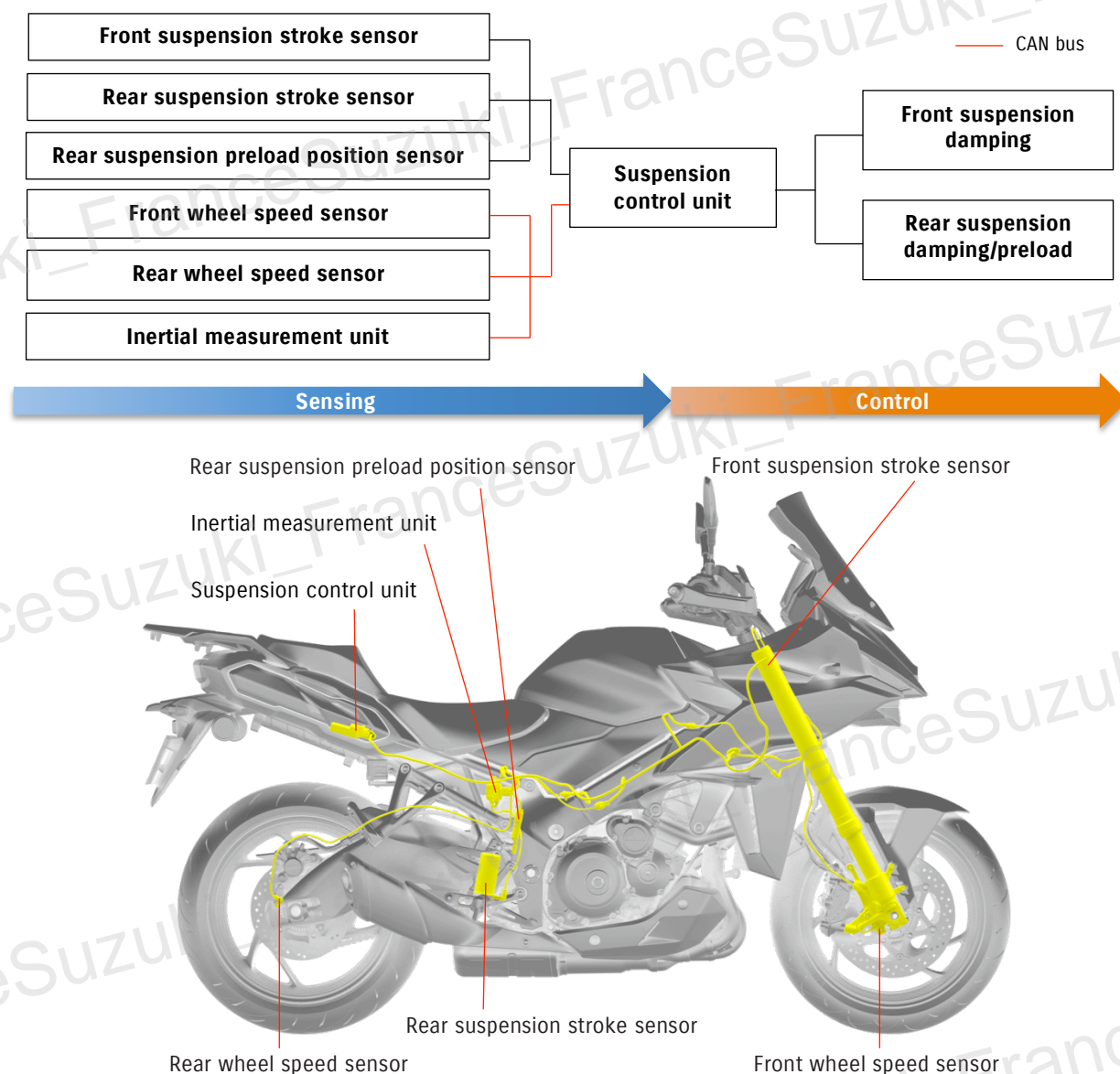
GSX-S1000GX

1-3. SDMS-α: Active Damping Control

The Suzuki Advanced Electronic Suspension (SAES) for the GX offers four electronically controlled damping settings – “Hard”, “Medium”, “Soft” and a customizable “User” setting. The settings change automatically in accordance with the SDMS-α mode chosen by the rider, with the default being Hard for SDMS-α’s A mode, Medium for B mode and Soft for C mode. However, the rider can also change how SDMS-α applies the respective settings. For example, if preferred, the rider can choose to have A mode use the Medium, Soft or User damping setting rather than the default Hard setting.

Each mode is controlled to reproduce the specified damping characteristics in accordance with the stroke speed of the suspension.

Active Damping Control overview diagram



6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

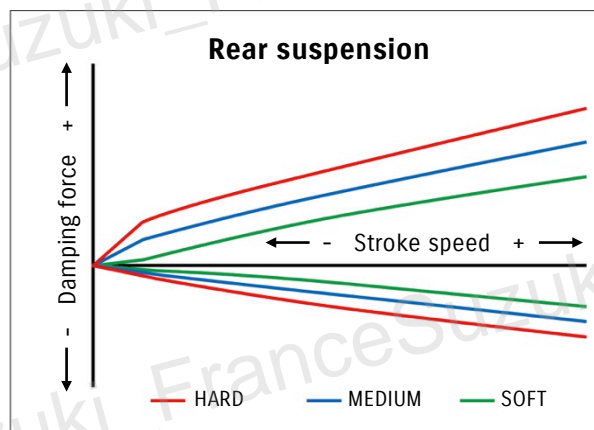
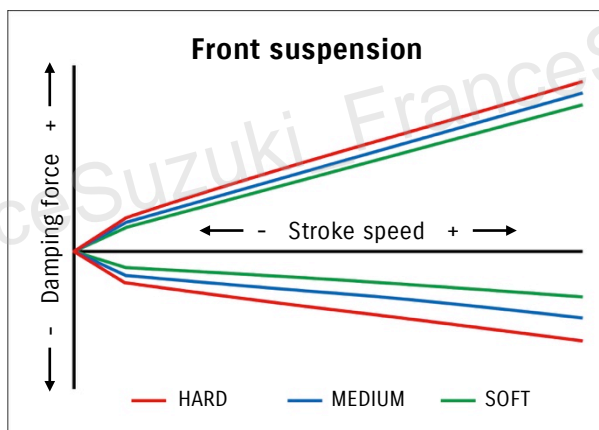
GSX-S1000GX

In addition, when customizing the User mode setting, the rider can independently adjust the front and rear settings by ± 3 increments after selecting between a base setting of Hard, Medium or Soft.

The User mode setting screen



| H (Hard mode) | M (Medium mode) | S (Soft mode) | U (User mode) |
|---------------------------|---------------------------|---------------------------|--|
| Fixed Front 0 / Rear 0 | Fixed Front 0 / Rear 0 | Fixed Front 0 / Rear 0 | Customizable Front ± 3 / Rear ± 3 * *The default setting is Front 0 / Rear 0 |



6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

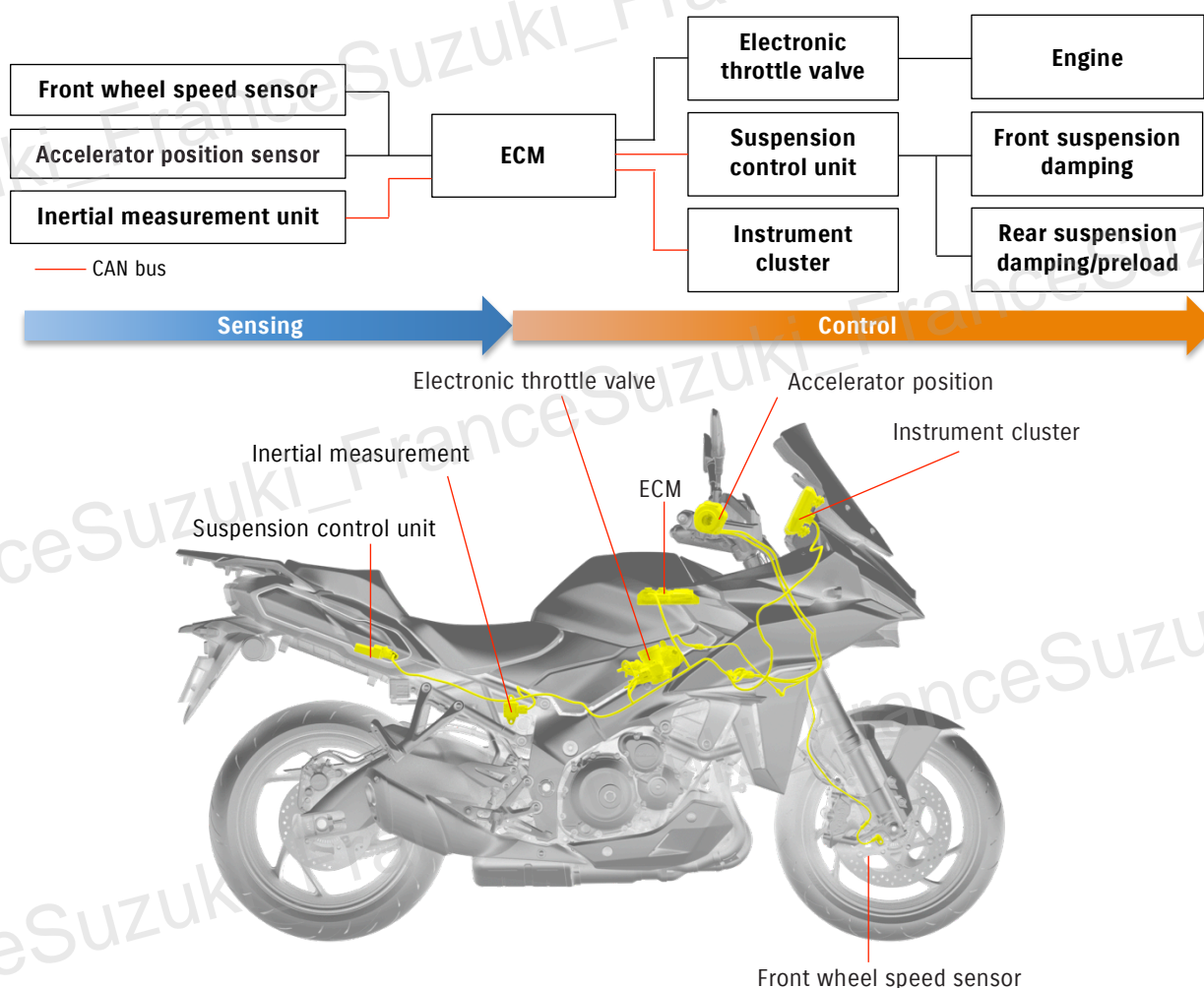
GSX-S1000GX

2. Suzuki Road Adaptive Stabilization (SRAS)

SRAS is Suzuki's original program that detects uneven road surfaces based on input from the IMU and wheel speed sensors. On normal road surfaces, the GX uses suspension settings that emphasize responsiveness. However, when the SRAS detects the road surface to have changed to cobblestones or some other uneven surface, SRAS automatically triggers stronger Suzuki Floating Ride Control (SFRC) to help smooth out the ride and adjusts the Electronic Throttle Valve settings to deliver softer, more controllable throttle response. When the GX returns to a smooth road surface, SRAS deactivates and SFRC returns to a setting that does not interfere with on-road dynamic performance.

As a program capable of switching between high and low levels of skyhook effect depending on road surface conditions, thereby taking SFRC efficacy to a higher level, SRAS successfully enables comfortable riding on uneven surfaces as well as aggressive riding on normal surfaces. Since this system is unique, it succeeds in providing performance only offered by Suzuki.

Suzuki Road Adaptive Stabilization (SRAS) overview diagram



6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX

When riding on cobblestones or other uneven surfaces

* Red text indicates changes to settings when SRAS is activated

| | Suzuki Drive Mode Selector Alpha (SDMS-a) | A (Active) mode | B (Basic) mode | C (Comfort) mode | No. of levels | Changes when SRAS is activated |
|---|--|-------------------|---------------------|-------------------|---------------|--------------------------------|
| When riding on cobblestones or uneven surfaces (= with SRAS active) | Power Mode level + ETV control active for gentler throttle response | 1 | 2 | 3 | 3 | *1 |
| | Traction Control level (with integrated Lift and Roll Torque Control) | 2 | 4 | 6 | 7 + OFF | None |
| | Active Damping Control level (with SFRC set for a smoother ride) | Hard with SRAS | Medium with SRAS | Soft with SRAS | 4 (3+"U") | *2 |

*1: Adjusts the Electronic Throttle Valve settings to deliver softer, more controllable throttle response.

*2: Increases the level of SFRC intervention

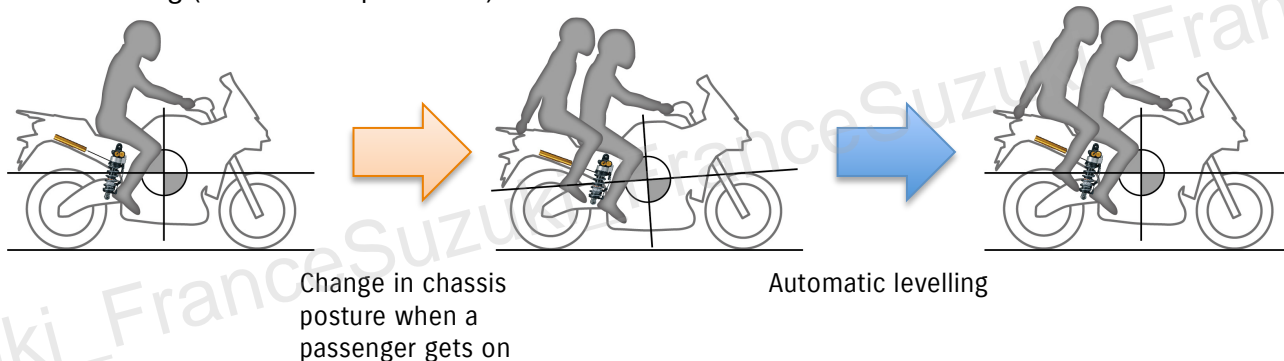


3. Automatic Rear Suspension Modes

The rear suspension's spring preload settings are electronically controlled, making it easy for a rider to use a handlebar switch to quickly choose between one of the four available modes they find best suited to their immediate needs or preferences.

AUTO mode is a user-friendly mode that allows anyone to easily enjoy the recommended automatic settings. This mode features auto-levelling, which detects changes in chassis posture when a passenger mounts or dismounts, or when gear is added or removed and, based on the damper stroke position, responds by automatically compensating to maintain the appropriate posture.

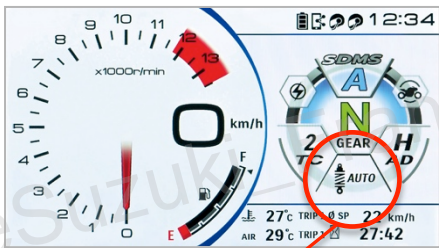




Auto-levelling (Preload compensation)



In addition, when set to AUTO, the system calculates the current load weight based on the rear suspension stroke and jack preload position, and automatically corrects the damping for both front and rear. This improves the movement of sprung mass under load and further stabilizes ride comfort under load conditions.

Riders who prefer to make their own settings can select between one of three dedicated manual modes: Single Rider, Single Rider + Gear, or Tandem (with or without gear). Note that damping compensation is not active when using these three manual modes.

In addition, the preload setting for AUTO mode can be adjusted by ± 3 increments and the three manual modes can be adjusted by ± 4 increments to match the rider's needs more finely.

| | | |
|---|--------------|---|
|  <p>Mode setting display</p> | Auto mode |  Auto |
| | Manual modes |  Single Rider |
| | |  Single Rider + Gear |
| | |  Tandem (with or without gear) |

6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX

The front fork spring preload settings can be adjusted manually using a single adjuster on the lower right fork.

Both the right and left fork contain coil springs, and the preload setting is manually adjusted here on the right fork.



* This photo includes optional accessories.

6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

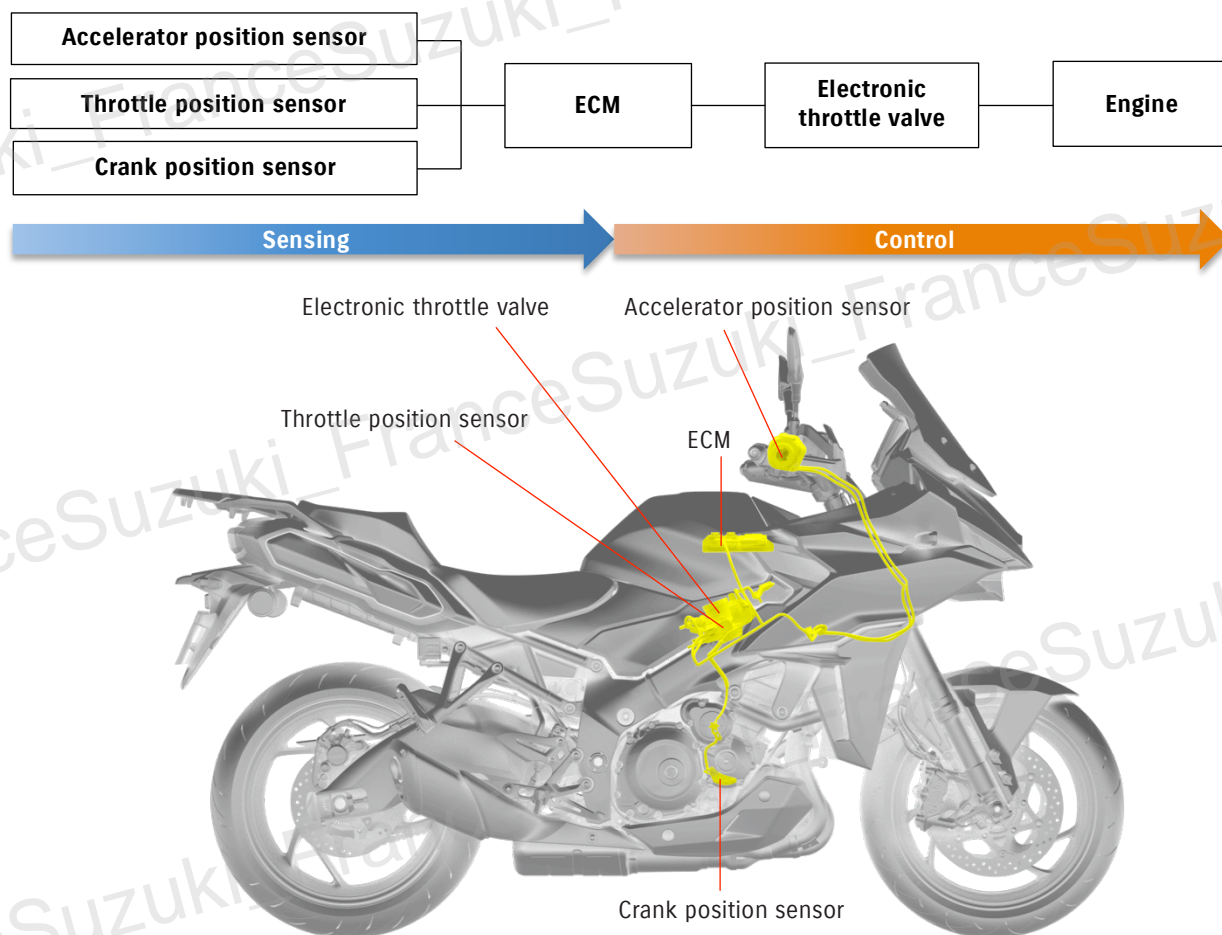
GSX-S1000GX

4. Ride-by-wire Electronic Throttle System

Suzuki's Ride-by-wire Electronic Throttle System leverages the ECM to control the action of the throttle valves and better control the relationship between throttle action and engine output characteristics. The benefit of this is that individual settings can be tuned and thoroughly tested to match each of the SDMS-α modes. As a result, throttle action responds faithfully to the rider's intention across the range of mode settings. The system also allows for the introduction of other advanced systems such as the Bi-directional Quick Shift System, which enhance riding ease and controllability.

This system gives the rider the added assurance of greater controllability over the powerful 1,000cm³-class engine at the most commonly used engine speeds, and helps harness that power effectively. It also benefits the rider by improving controllability when they open the throttle to accelerate out of a corner. Moreover, it offers the benefit of natural response and linear control similar to that of conventional throttle operation.

Ride-by-wire Electronic Throttle System overview diagram

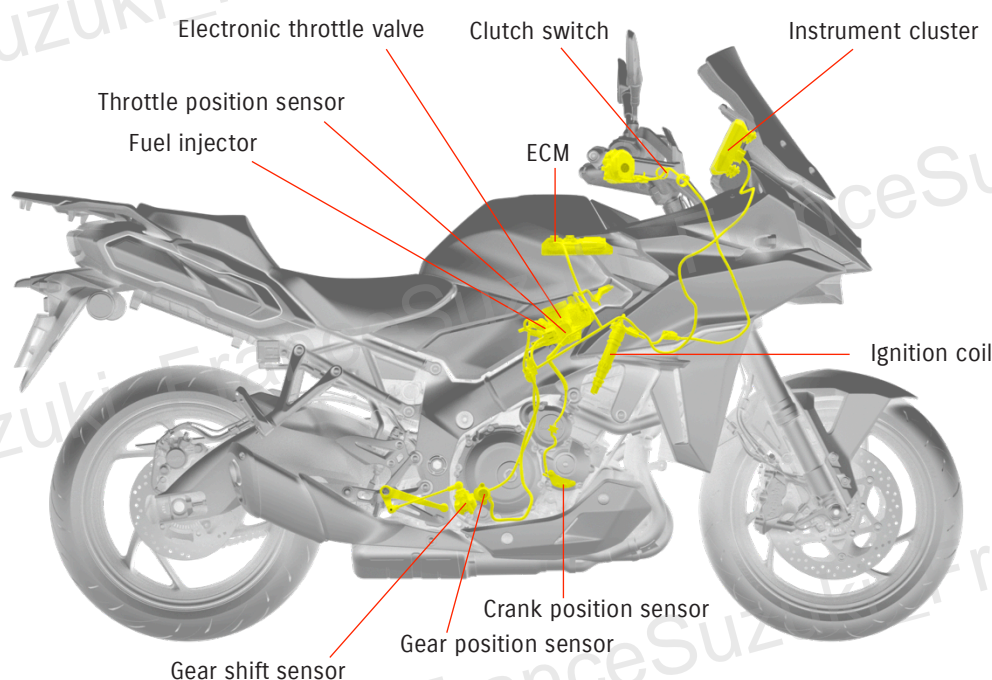
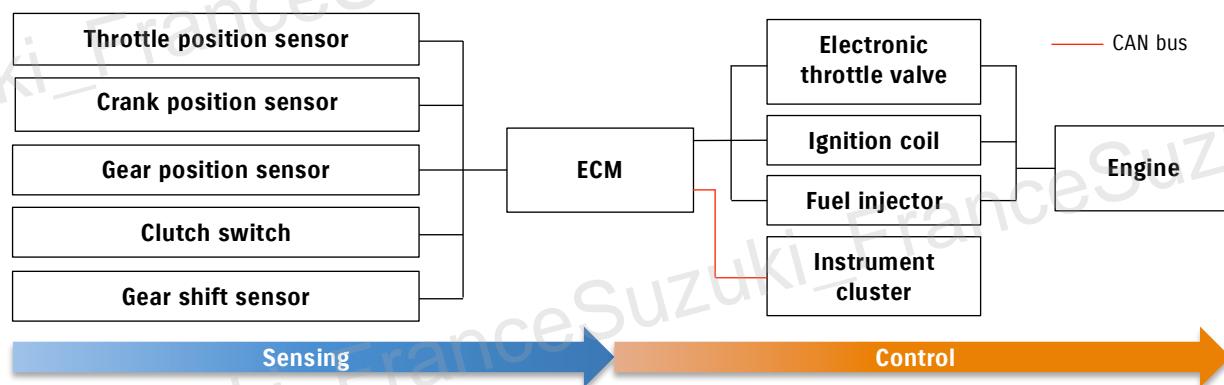


5. Bi-directional Quick Shift System

The Bi-directional Quick Shift System enables the rider to shift up or down without operating the clutch lever. Standard equipment on the GSX-S1000GX, this distinctive feature enhances the riding experience. The effect is immediately tangible and the benefits of not missing shifts and reduced fatigue is something riders will notice the minute they try it.

When activated, the system automatically interrupts power delivery just long enough when accelerating or maintaining steady speed to deliver a smoother ride and almost uninterrupted acceleration as the rider shifts up. When decelerating, the system automatically opens the throttle valves just enough to increase rpm and match engine speed to the next-lower gear ratio without manually blipping the throttle or using the clutch. This hands-free automatic blipping function combines seamlessly with engine braking to create a highly satisfying experience. While the ECM is programmed to control the electronic throttle valves and ignition timing to match the engine's operating speed and enable smooth shifting at any RPM, the gear shifting mechanism is optimized to provide a solid click with each shift that assures the rider a satisfying feeling that the gearbox has responded immediately to their action.

Bi-directional Quick Shift System overview diagram



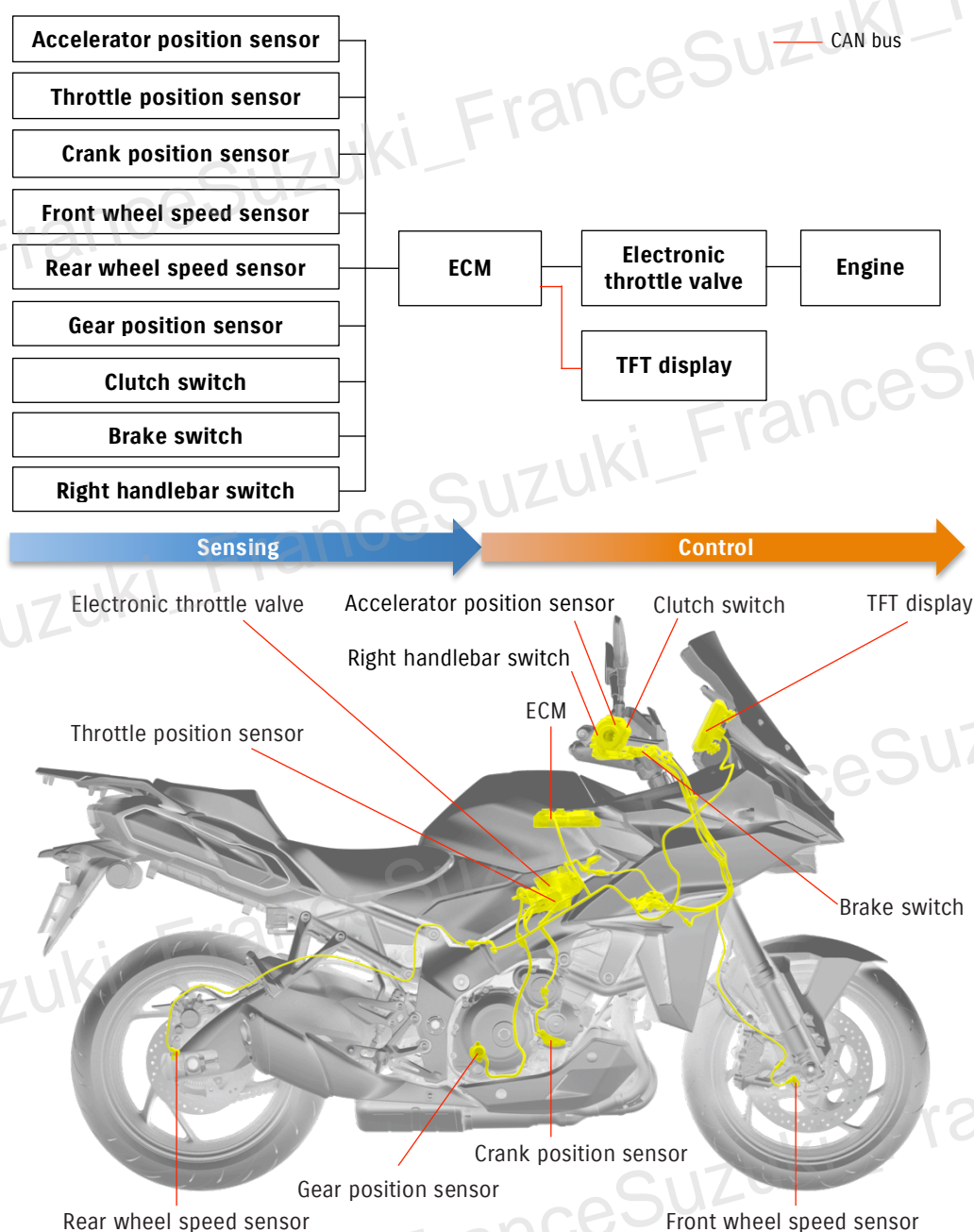
6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX

6. Smart Cruise Control

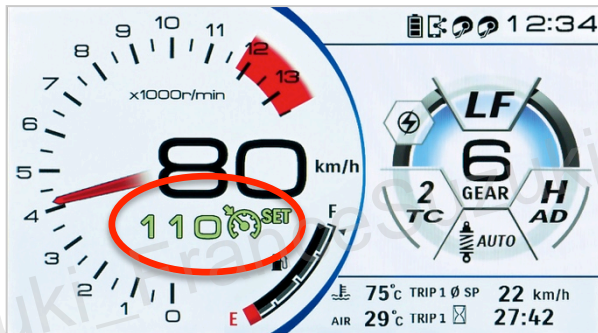
Cruise control allows the rider to maintain a set speed without operating the throttle. This helps reduce fatigue when touring long distances, particularly when travelling at constant speed on highways. The chosen setting appears on the color TFT LCD instrument screen and the speed can be easily adjusted upward or downward using the (plus or minus) select switch on the left handlebar. Smart Cruise Control can be set at speeds between 30km/h to 180km/h when riding in 2nd gear or higher. The handy resume function re-engages the system and accelerates to the most recent speed setting after canceling. The system was updated to now allow the rider to shift up or down using Bi-directional Quick Shift without it cancelling cruise control. This makes the GX more comfortable, more convenient, less tiring and easier to operate on long rides by eliminating the need to reset cruise control after each shift.

Smart Cruise Control overview diagram



6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX



Speed setting for Smart Cruise Control



Left handlebar switch



Cruise control system switch



* This photo includes optional accessories.

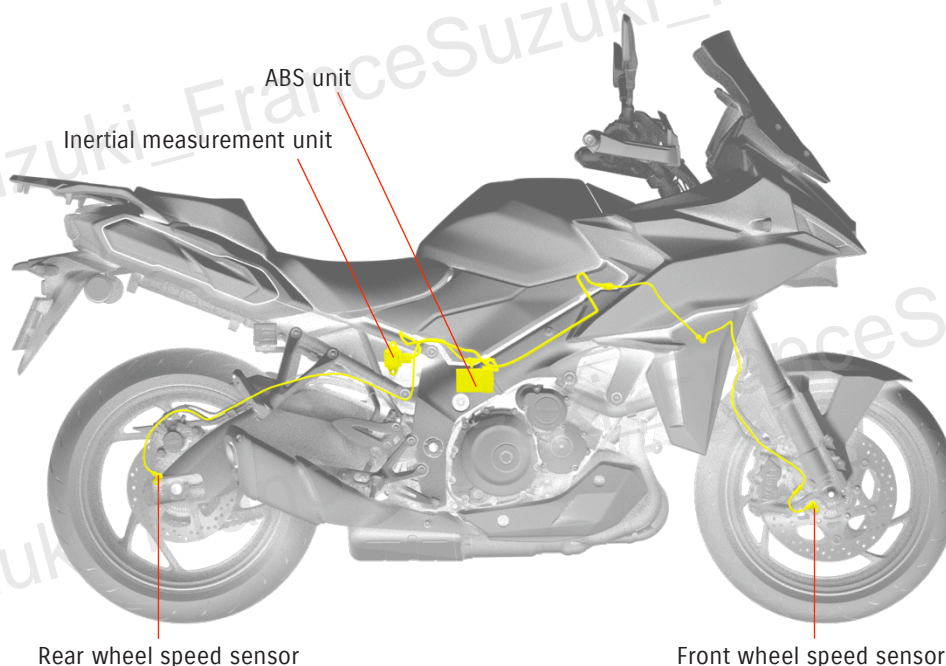
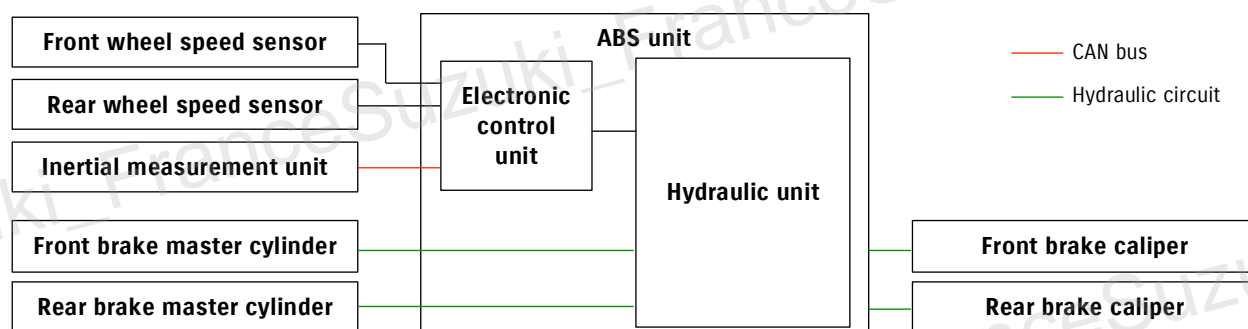
6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX

7. Motion Track Brake System

This system enhances control by allowing ABS activation not only when travelling in a straight line, but also when leaning into a corner. The ABS unit's ECU determines when intervention is called for by monitoring input from the front and rear wheel speed sensors along with vehicle posture data from the IMU. When it is, the ABS unit's hydraulic unit controls brake pressure to reduce the impact of sudden braking force, making the bike less likely to try to push itself upright or lose traction. As a result, the bike maintains its radius and lean angle, helping to support the rider in tracing their intended line through the corner. Even if the rider panics and brakes heavily in a corner, the system assists in maintaining stability while slowing the machine. The Motion Track Brake System supports sure and confident braking in various riding situations, both when riding straight and when cornering. That is why the GX is the first bike in the GSX-S series to adopt the system.

Motion Track Brake System overview diagram



Note: ABS is not designed to shorten the braking distance. Please always ride at a safe speed for road and weather conditions, including while cornering.

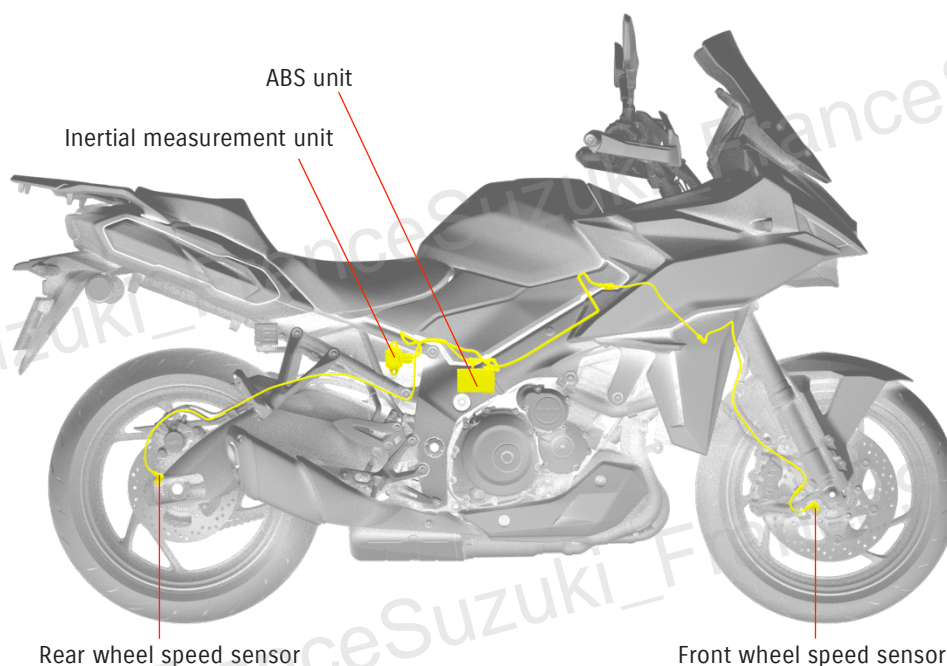
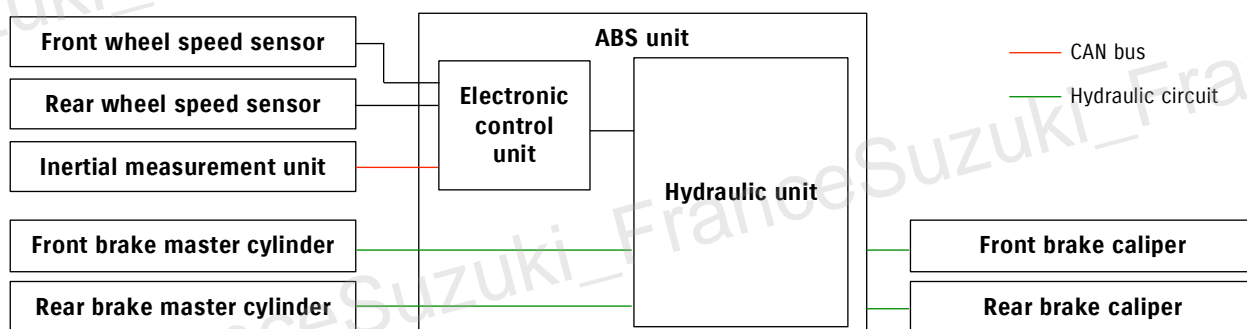
6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX

8. Slope Dependent Control System

This system prevents rear wheel lift when braking while riding downhill, resulting in a more stable ride. The ABS unit uses input from the IMU to monitor the bike's posture and, when the rider applies the brakes, its hydraulic unit controls brake pressure to deliver the optimum setting to match the angle of inclination. The amount of rear lift control is continuously adjusted to match the current slope angle, and this results in supporting more stable braking.

Slope Dependent Control System overview diagram



6. SUZUKI INTELLIGENT RIDE SYSTEM (S.I.R.S.)

GSX-S1000GX

9. Suzuki Easy Start System

This system lets the rider start the motorcycle with one quick press of the starter button. There is no need to pull in the clutch lever when the transmission is in neutral, and the starter motor automatically disengages the instant the engine fires up. As a function used every time the engine is started, removing the bother of the above operations makes the riding experience more pleasurable and convenient.



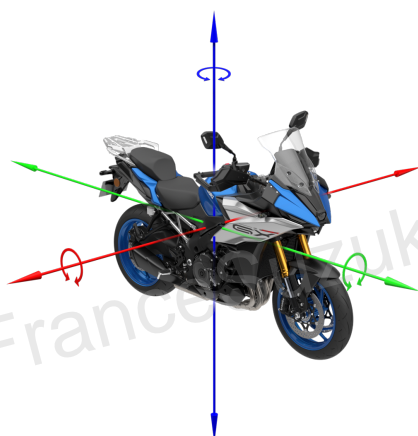
10. Low RPM Assist

Suzuki's Low RPM Assist function monitors engine rpm, gear position, throttle position, and clutch switch data as the rider releases the clutch lever to pull away from a standing start, or when riding at low speeds. It is programmed to help prevent engine speed from dropping excessively as the rider launches the bike to ensure smoother starts. It also promotes more confident riding by helping counteract drops in engine speed when riding in stop-and-go traffic, or when doing U-turns.

Supporting technologies

Inertial Measurement Unit (IMU)

Marking another first among the GSX-S series, the GX adopts an IMU from Bosch. This IMU integrates accelerometers and gyroscopes in a single compact package that measures angular rate and acceleration in six directions to constantly monitor pitch, roll, and yaw movement. Advanced features that employ data provided by the IMU include Lift Limiter, Roll Torque Control, Active Damping Control, SRAS, Motion Track Brake System, and Slope Dependent Control system.



6-axis IMU



IMU

Controller Area Network (CAN bus)

The GSX-S1000GX employs a robust CAN bus that enables the ECM to communicate with the 6.5-inch TFT LCD instrument panel, as well as the IMU, SCU and ABS. The capabilities it brings to the table help realize the inclusion of advanced control systems. For example, while conventional ABS is controlled using information from the front and rear wheel speed sensors, ABS on the GX also receives data from the IMU via the CAN bus to realize the Motion Track Brake system.

Engine Control Module (ECM)

The ECM provides state-of-the-art engine management that contributes to the operation and optimization of several critical systems.



ECM

6.5-inch full-color TFT LCD Multi-information display



*All lights and indicators are illuminated in the photo for illustrative purposes.

The GSX-S1000GX instrument cluster employs a 6.5-inch full-color TFT LCD screen designed to be easy to see and understand, and to provide the rider with instant access to desired information. It accomplishes this, even with the increasing number of functions that come with electronic assist systems and other advances vying for space. Developed specifically for use on motorcycles, this large Multi-information display also features a scratch-resistant surface, an anti-reflective coating that improves visibility in bright light, as well as the ability to connect to smartphones. In addition to keeping the rider fully aware of all the bike's systems, settings and real-time operating status, the TFT LCD can also display maps, incoming and outgoing phone calls, contacts, and music when connected to the rider's smartphone for even greater convenience, functionality and fun. The look is one of high quality that helps instill pride of ownership.

LCD readouts include:

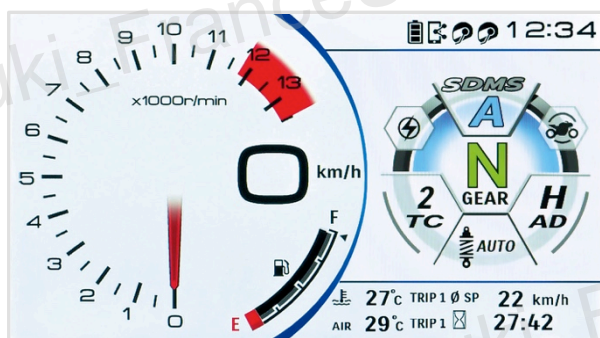
- Speedometer
- Tachometer
- Riding range
- Cruise control setting
- Odometer
- Dual trip meter
- Gear position
- Water temperature
- Ambient temperature
- Smartphone battery level
- Voltmeter
- RPM indicator
- Average fuel consumption (1&2)
- Instant fuel consumption
- SDMS-α mode / SRAS (when active)
- Suzuki Traction Control mode
- Lift Limiter (when active)
- Active Damping Control mode
- Automatic Rear Suspension Mode
- 12-hour clock
- Smartphone connection status
- Rider-passenger intercommunication (Bluetooth®)
- Fuel gauge

LED indicators flanking the display include the left turn signal indicator, MIL (Malfunction Indication Lamp), neutral indicator light, master warning indicator, high-beam indicator light, right turn signal indicator, TC (Traction Control) indicator, low oil pressure warning light, ABS indicator, and coolant temperature warning light. All are designed for easy recognition.

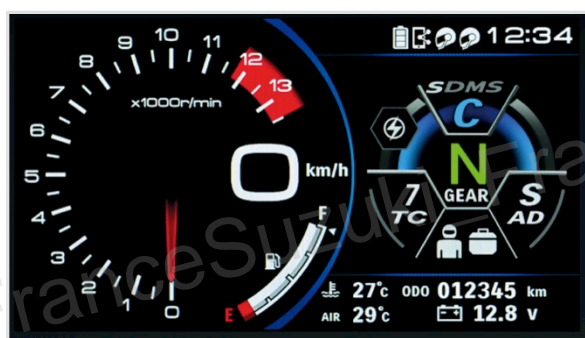
7. ELECTRIC EQUIPMENT

GSX-S1000GX

The screen features a custom display with exclusive graphics, including blue background lines that add extra flavor and convey the appeal and spirit of the Suzuki brand identity. It also offers manual or automatic switching settings for the day (white) and night (black) display modes that maximize visibility at any hour and in any riding situation. An additional feature of the LCD screen is a brief custom animation that plays when the ignition key is turned on. This playful presentation is pleasing to the eye and heightens anticipation of the ride to come.



HOME screen (Day mode)



HOME screen (Night mode)



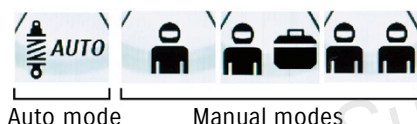
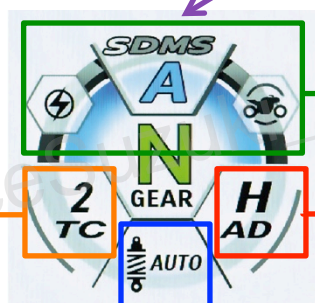
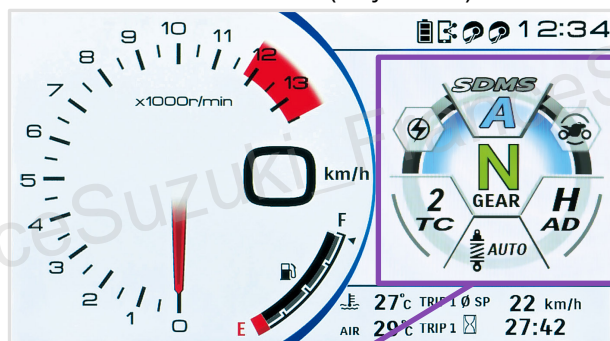
MENU screen



SETTING screen

*All lights and indicators are illuminated in the photo for illustrative purposes.

HOME screen (Day mode)



Automatic Rear Suspension Modes

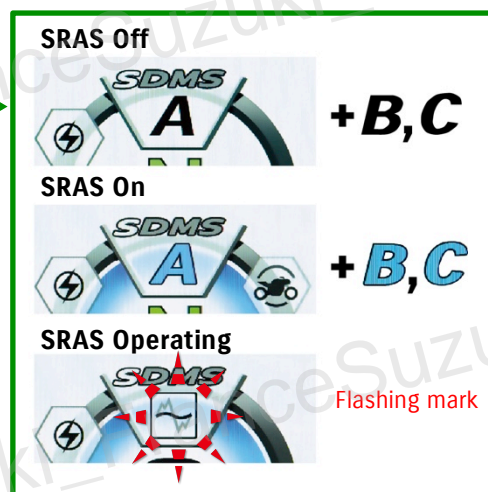
Shows the current setting. This function offers a selection of four mode settings: Auto, Single, Single plus Gear, Tandem.

Traction Control level (with integrated Lift Limiter and Roll Torque Control)

There are seven modes in all. It can also be turned off.

Active Damping Control level

Shows the current setting - "Hard", "Medium", "Soft" or the customizable "User" setting. (Note: the rider can adjust each of the front and rear settings by ± 3 increments when selecting settings for "U" (User mode).



Smartphone connectivity

The rider can connect a smartphone running iOS or Android™ using Wireless LAN and Bluetooth®, and can charge their smartphone using the dedicated USB outlet on the left side of the LCD screen.



USB outlet

- * Using the USB port while the engine is idling or stopped may drain the battery. Be aware of battery drain when using the USB port.
- * Do not use when washing the motorcycle or when it is raining.
- * Attach the cap when USB outlet is not in use.

The 6.5-inch TFT LCD multi-information display is designed to support the smartphone connectivity features of the SUZUKI mySPIN app. In contrast to competing products that employ systems developed for use in cars, the GSX-S1000GX adopts hardware and software designed specifically for motorcycle use. As such, SUZUKI mySPIN works seamlessly on the TFT LCD screen to enrich the functionality of smartphone connectivity. The result is a smart cockpit environment that blends riding and vehicle status updates, such as the speedometer and tachometer readouts, with pertinent information, communication and entertainment from the rider's smartphone.

By installing the free SUZUKI mySPIN app on their phone, the rider can access an array of useful functions from the five bundled apps. The apps used are developed for motorcycles, with the screen mirrored on the cluster's TFT LCD screen to present a familiar look and intuitive feel to the switches on the left handlebar when accessing features and content, or to change settings while riding. Functions supported by the included apps are as follows.

SUZUKI mySPIN



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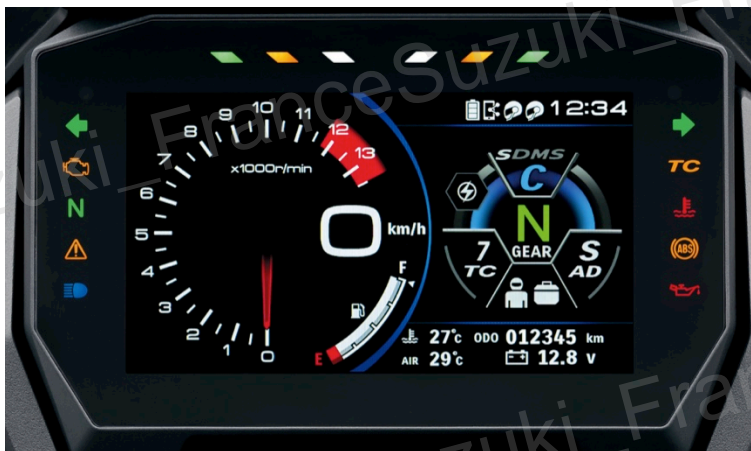
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7. ELECTRIC EQUIPMENT

GSX-S1000GX



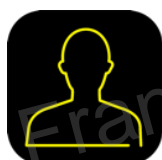
Left handlebar switch



SUZUKI mySPIN app home screen display
(as seen with smartphone connected)



SUZUKI mySPIN's five core functions



Contacts



Phone



Maps



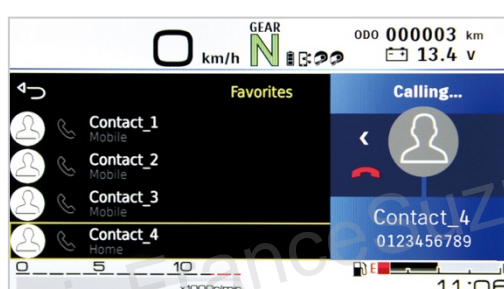
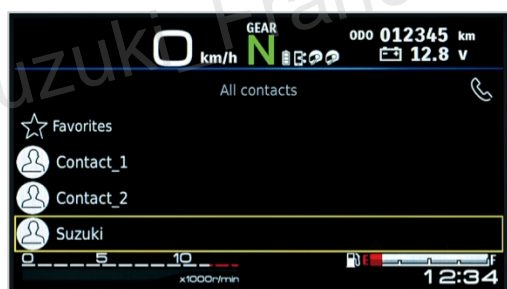
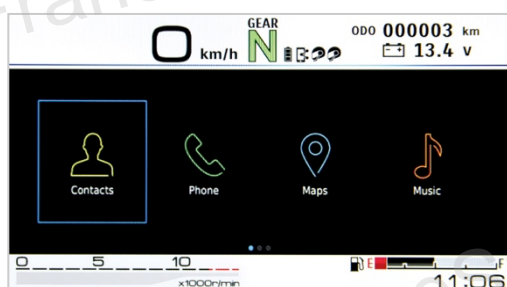
Music



Calendar

**Contacts**

The system can access the contacts app on the smartphone and inform the rider who is calling on the phone. Calls can also be placed by selecting a contact from the list.



7. ELECTRIC EQUIPMENT

GSX-S1000GX



Phone

The system can place phone calls, either dialed directly or from the contacts app, and can display the rider's call history. This can be done without stopping the bike, so is very convenient.



Maps

The rider can view their current location on the map without having to download any third-party map data, and can search for destinations and get routing information while zooming in and out using the switches on the left handlebar.



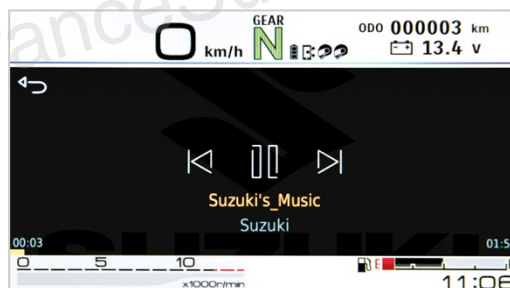
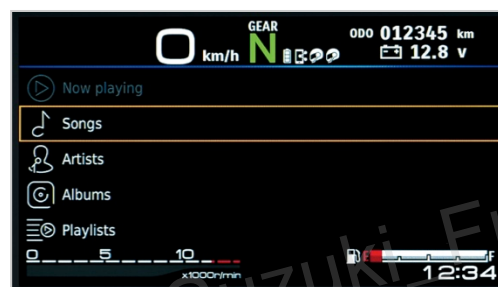
7. ELECTRIC EQUIPMENT

GSX-S1000GX



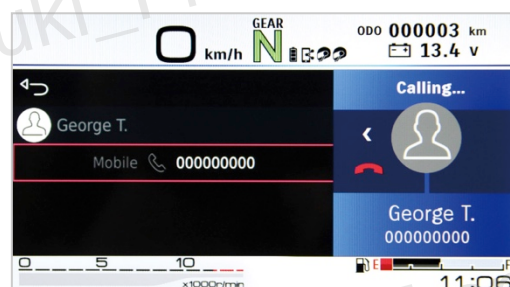
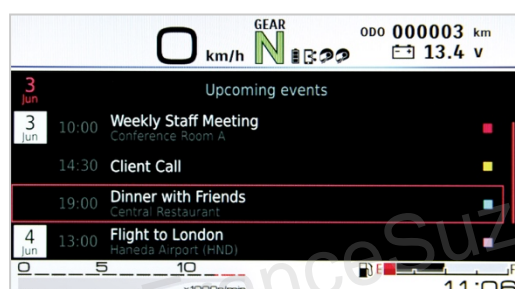
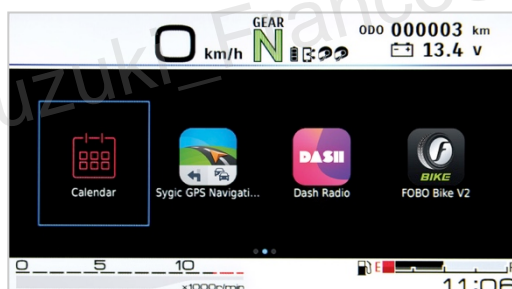
Music

The rider can use a Bluetooth® headset to listen to music from their smartphone's music library, and the passenger can listen along provided they too are wearing a Bluetooth® headset connected to the system.



Calendar

The rider can display calendar entries from their smartphone on the LCD screen and check scheduled events and reminders.



7. ELECTRIC EQUIPMENT

GSX-S1000GX

Third party apps give riders access to added functionality and fun. Downloading these third-party apps within SUZUKI mySPIN adds features such as navigation, routing and time to destination functions and more. The combination of SUZUKI mySPIN and the TFT LCD screen makes for a richer and more pleasant riding experience that brings the rider and motorcycle even closer.



- * Headsets are sold separately.
- * Screen images in this document were prepared using iOS 16.2, so may differ visually when using a different OS or system version.
- * App operation was confirmed under specific conditions. Depending on the OS and system version, some apps may not operate properly or functions may be limited.
- * All lights and indicators in the images on pages 58 to 66 are illuminated for illustrative purposes.
- * Only third-party apps designated for use with SUZUKI mySPIN are supported.
- * Suzuki cannot guarantee proper operation of third-party apps.
- * Please refer to the respective terms of use when installing and using third-party apps.
- * Some third-party apps may not be installable or may appear differently depending on the country or region, or on the OS or system version.
- * Third-party apps are not under our control, and we are not responsible for their content or privacy policies.
- * Some third-party offerings are paid apps. Please confirm that before installing new apps.
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Highly functional and attractive lighting

LED headlights

The vertically stacked pair of distinctive hexagonal LED headlights employ a bright mono-focus LED light source that provides the rider with a clear view of the road ahead. In terms of design, the vertical orientation of the thin, compact headlight assembly creates a sharp look with unique character that makes the front end look light and ready for action.

By tucking the high-beam headlight away in the blacked out region below the protruding nose, the single compact “eye” of the LED low-beam headlight further highlights the slim look of the front when lit on its own.



Headlights OFF



Low beam



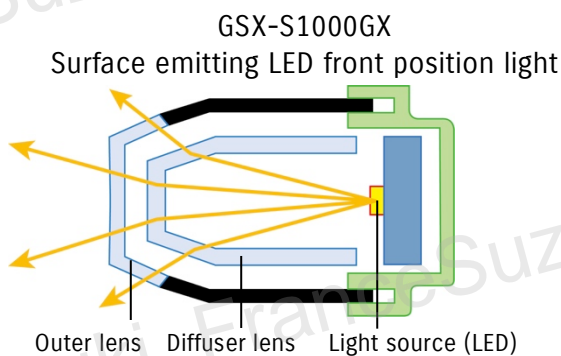
High beam

LED Position Lights

Sharp-looking, compact surface emitting LED position lights flank the headlights along the sides of front cowl. The same type as used on luxury cars, these lights feature an upswept angle and narrow slit design that add to the distinctive look of the front face.



LED position lights



7. ELECTRIC EQUIPMENT

GSX-S1000GX

LED front turn signals

The LED front turn signals are mounted in thin bar-shaped housings that extend from the sides of the cowling.



LED rear combination light and turn signals

The rear combination light and turn signals use LEDs for high visibility and long life. With a clear lens covering the LEDs, the design of the rear combination light conveys a premium feel that emphasizes the stylish lines of the compact tail section.



LED rear combination light & LED rear turn signals

8. COLOR LINEUP

GSX-S1000GX



Metallic Triton Blue (YSF) **MAIN COLOR**



Glass Sparkle Black (YVB)



Pearl Mat Shadow Green (QU5)

9. SPECIFICATIONS

GSX-S1000GX

| | | |
|---------------------------|-------|--|
| Overall length | | 2,150 mm (84.6 in.) |
| Overall width | | 925 mm (36.4 in.) |
| Overall height | | 1,350 mm (53.1 in.) |
| Wheelbase | | 1,470 mm (57.9 in.) |
| Ground clearance | | 155 mm (6.1 in.) |
| Seat height | | 845 mm (33.3 in.) |
| Curb weight | | 232 kg (511 lbs.) |
| Engine type | | 4-stroke, 4-cylinder, liquid-cooled, DOHC |
| Bore x Stroke | | 73.4 mm x 59.0 mm (2.9 in. x 2.3 in.) |
| Engine displacement | | 999 cm ³ (61.0 cu. in.) |
| Compression ratio | | 12.2:1 |
| Fuel system | | Fuel injection |
| Starter system | | Electric |
| Lubrication system | | Wet sump |
| Transmission | | 6-speed constant mesh |
| Suspension | Front | Inverted telescopic, coil spring, oil damped |
| | Rear | Link type, coil spring, oil damped |
| Rake / Trail | | 25.5° / 97 mm (3.8 in.) |
| Brakes | Front | Disc, twin |
| | Rear | Disc |
| Tires | Front | 120/70ZR17M/C (58W), tubeless |
| | Rear | 190/50ZR17M/C (73W), tubeless |
| Ignition system | | Electronic ignition (transistorized) |
| Fuel tank capacity | | 19.0 L (5.0/4.2 US/Imp gal) |
| Oil capacity (overhaul) | | 3.4 L (3.6/3.0 US/Imp qt) |
| Fuel consumption | | 16.1 km/L (6.2 L/100km) in WMTC |
| CO ₂ emissions | | 144 g/km in WMTC |

* European Spec. shown