

# Features & Specifications

## 2018 GSX-S1000Z



### GSX-S1000ZAL8

YKV: Metallic Matte Black No. 2 /  
Glass Sparkle Black

### Key & New Features

- Fuel-injected 999cc, 4-cylinder, engine has increased horsepower and torque with refined fuel injection mapping for 2018 to provide a smooth, yet powerful sportbike experience.
- New Suzuki Clutch Assist System (SCAS) drive line smooths shifting and engine braking. Clutch increases plate pressure under acceleration and is a slipper-clutch during engine braking.
- Suzuki Advanced Traction Control\* lets the rider select sensitivity to match road conditions.
- Twin-spar aluminum frame and adjustable KYB suspension delivers controlled handling.
- New brake hoses improve initial bite and feeling from the Brembo Monobloc front brake calipers plus an Antilock Brake System\*\* (ABS) helps deliver controlled stopping power.
- Aggressive blacked-out street-fighter styling is bundled with an ergonomically comfortable, yet sporty riding position.

### Overview

As much as a GSX-R1000 owns the racetrack, the GSX-S1000Z owns the street. Developed using the attributes of the championship winning 2005 – 2008 generation GSX-R1000, this naked sportbike carries the spirit of the Suzuki performance to the street, with shared technology and components packaged into a chassis designed specifically for all-day riding comfort.

It's more than just an attitude, a spirit, or a lineage though; it's about performance-packed hard parts evolving from one generation to the next. The GSX-S1000Z is powered by a 999cc inline four-cylinder powerplant that's based on the legendary long-stroke GSX-R1000 engine, which makes for ideal street-riding power and torque curve. Focused on making big power through the low and mid-range, this engine uses a valve-train that's optimized to deliver street-dominating power.

Equipped with a more powerful engine for 2018, Suzuki's Advanced Traction Control System\*, a balanced KYB suspension, plus ABS-equipped\*\* Brembo and NISSIN brakes, the GSX-S1000Z is a street bike packed with some serious performance. Top that performance off with aggressive streetfighter styling that's as dark as midnight and you have a motorcycle that puts sinister fun at your fingertips.

## Engine Features

- The strong, four-stroke, liquid-cooled, DOHC, 999cc inline-four engine has refined fuel injection mapping to provide smooth throttle response and controlled acceleration.
- Long-stroke GSX-R engine design has broad low-to-mid range power and torque that is ideal for street riding.
- New ventilation holes between the cylinders reduces pumping loss within the crankcase so the engine can deliver more power and torque
- The profiles of the dual, overhead camshafts were designed to enhance street performance while preserving peak, racetrack-capable power.
- Aluminum pistons, engineered with use of FEM (Finite Element Method) analysis, are cast with optimal rigidity and weight.
- Suzuki Composite Electrochemical Material (SCEM)-plated cylinders integrated into the upper crankcase reduce friction and improve heat transfer and durability.
- The EFI system uses Suzuki's proprietary, SDTV (Suzuki Dual Throttle Valve) throttle bodies where the secondary throttle valves are controlled by a servo motor for smooth power delivery.
- Long tip, 10-hole fuel injectors on each 44mm throttle body improves fuel atomization while the automatic Idle Speed Control (ISC) improves cold starting and stabilizes the engine idle.
- The digital ignition fires iridium type spark plugs that increase spark strength and combustion efficiency, contributing to higher power, more linear throttle response, easier engine start-up, and a more stable idle. These quality components also last longer than conventional spark plugs.
- The stainless-steel, 4-2-1 exhaust system helps the engine deliver a strong low-to-mid range punch with an exciting rush to redline.
- The Suzuki Exhaust Tuning (SET) system-equipped mid-muffler design enhances style and aids in mass centralization for great chassis balance.
- The sculpted muffler has a pleasing appearance that's not common to under-chassis exhausts while creating an exciting, distinctive sound.
- Suzuki's advanced traction control system\* lets the rider to control the throttle with more confidence in various riding conditions. As a result, the rider can enjoy sport riding with less anxiety. There are four traction control modes (1, 2, 3, and OFF) that the rider can easily adjust at rest or on-the-fly via a handlebar-mounted control. The difference between the modes are their sensitivity to road conditions.
  - o Mode 1 is lowest sensitivity level most suitable for skilled riders or in conditions that have good road surface grip (sport riding on good, smooth roads).
  - o Mode 2 is a moderate sensitivity level that is suitable for most riders or in conditions that have varied road surface grip (city riding, regular road conditions).
  - o Mode 3 is highest sensitivity level suitable for road conditions where the grip may be limited (wet or cold surfaces).
  - o OFF disengages all traction control features.
- Angular radiator shrouds efficiently guide cooling air to the high-capacity curved radiator. Additional heat is removed from the engine via the use of a lightweight and compact liquid-cooled oil cooler (like those used on the GSX-R models).

## Transmission Features

- The race-proven six-speed close-ratio transmission features vertically staggered shafts to reduce overall engine length.
- Large diameter, slipper-style clutch is derived from a GSX-R design to easily transmit power while the rack and pinion clutch release provides the rider with superb friction-point feel.
- The SCAS-style, multi-plate clutch helps transmit engine power under acceleration and slips under engine praking to smooth shifting and and overall driveability.
- The refined shift linkage helps the rider easily and quickly select the best gear for the riding conditions.
- The strong, RK-supplied drive chain uses O-rings to preserve internal lubrication so power is transmitted smoothly and quietly.

## Chassis Features

- Lightweight and compact chassis is engineered to be agile and fun-to-ride for a wide range of riders. This ability starts with the low-mass rigid aluminum main frame coupled with the strong aluminum-alloy swingarm.
- The new 43mm inverted KYB forks have adjustable compression and rebound damping, and spring pre-load with a generous 120mm (4.7 in) of front wheel travel.
- Link-type rear suspension, with arched aluminum swingarm and a single shock absorber that features spring preload that is 7-way adjustable with rebound damping force adjustment.
- Dual front brakes with fully-floating 310mm discs and BREMBO monobloc calipers with four 32mm opposed pistons include new brake hoses to provide strong and consistent stopping power.
- The front brakes are complemented by a 240mm rear disc brake with a NISSIN single-piston caliper to help make sure you can have controlled stops.
- Both the front and rear brakes can be modulated by a compact Anti-lock Brake System\*\* (ABS) controller to match stopping force to the available traction.
- Unique to the GSX-S1000 models, the TRP 6-spoke lightweight cast aluminum wheels are shod with Dunlop radial tires (120/70ZR17 front and 180/50ZR17 rear).
- Matte-black foot and hand controls plus an aluminum Renthal Fatbar handlebar is standard equipment offering excellent riding ergonomics with great vibration damping.
- The reasonable sport riding position is created by a carefully crafted relationship between the Renthal FatBar, footrests and seat.
- The low seat height of 815 mm (32 in.) contributes to the sporty, yet upright riding position and aids rider confidence at stops.
- The GSX-S1000Z's naked roadster bodywork is designed to look wild, rugged, and aggressive—and to keep the rider comfortable at all times.

## Electrical Features

- The GSX-S1000 models premiered Suzuki's Easy-start System that requires just a simple touch of the starter button to fire up the engine (without pulling the clutch lever if the transmission is in neutral).
- Distinctively shaped headlight nacelle contains a bright 60/55W H4 halogen bulb. The tail section houses an integrated LED taillight with clear lens.
- The lightweight and compact instrument sets uses a LCD display that includes speedometer, tachometer, odometer, dual tripmeters, gear position, coolant temperatures, driving range, average fuel consumption, instantaneous fuel consumption, traction control, and a clock functions.
- The display has an adjustable intensity, white-color backlight for great nighttime visibility and is flanked by LED indicators for the turn signals, high beam, malfunction, traction control, ABS, plus coolant temperature and oil pressure alerts.

## Additional Features

- A variety of Genuine Suzuki Accessories such as a solo seat cowl and sport screen are available, plus a large selection of logo apparel.
- 12-month unlimited mileage, limited warranty.
  - Coverage can be increased via Suzuki Extended Protection.
- For more details, please visit [www.suzukicycles.com](http://www.suzukicycles.com).

*\* The Traction Control System is not a substitute for the rider's throttle control. It cannot prevent loss of traction due to excessive speed when the rider enters a turn and/or applies the brakes. Neither can it prevent the front wheel from losing grip.*

*\*\* Depending on road surface conditions, such as wet, loose, or uneven roads, braking distance for an ABS-equipped vehicle may be longer than for a vehicle not equipped with ABS. ABS cannot prevent wheel skidding caused by braking while cornering. Please ride carefully and do not overly rely on ABS.*

# Specifications GSX-S1000ZAL8

## E-03: USA, E-33: California

### Dimensions and curb mass

Item	Specification	Remark
Overall length	2115 mm (83.3 in)	—
Overall width	795 mm (31.3 in)	—
Overall height	1080 mm (42.5 in)	—
Wheelbase	1460 mm (57.5 in)	—
Ground clearance	140 mm (5.5 in)	—
Seat height	810 mm (31.9 in)	—
Curb mass	209 kg (461 lbs)	E03
	210 kg (463 lbs)	E33

### Engine

Item	Specification	Remark
Type	Four-stroke, liquid-cooled, DOHC	—
Number of cylinders	4	—
Bore	73.4 mm (2.890 in)	—
Stroke	59.0 mm (2.323 in)	—
Displacement	999 cm <sup>3</sup> (61.0 cu. in)	—
Compression ratio	12.2 : 1	—
Fuel system	Fuel injection	—
Air cleaner	Paper element	—
Starter system	Electric	—
Lubrication system	Wet sump	—
Idle speed	1150 ± 100 r/min	—

### Drive train

Item	Specification	Remark	
Clutch	Wet multi-plate type	—	
Transmission	6-speed constant mesh	—	
Gearshift pattern	1-down, 5-up	—	
Primary reduction ratio	1.553 (73/47)	—	
Gear ratios	Low	2.562 (41/16)	—
	2nd	2.052 (39/19)	—
	3rd	1.714 (36/21)	—
	4th	1.500 (36/24)	—
	5th	1.360 (34/25)	—
	Top	1.269 (33/26)	—
Final reduction ratio	2.588 (44/17)	—	
Drive chain	RK525GSH, 116 links	—	

# Specifications GSX-S1000ZAL8

## E-03: USA, E-33: California

### Chassis

Item	Specification	Remark
Front suspension	Inverted telescopic, coil spring, oil damped	—
Rear suspension	Link type, coil spring, oil damped	—
Front fork stroke	120 mm (4.7 in)	—
Rear wheel travel	130 mm (5.1 in)	—
Steering angle	31° (right and left)	—
Caster	25°	—
Trail	100 mm (3.9 in)	—
Turning radius	3.1 m (10.2 ft)	—
Front brake	Disc brake, twin	—
Rear brake	Disc brake	—
Front tire size	120/70ZR17M/C (58W), tubeless	—
Rear tire size	190/50ZR17M/C (73W), tubeless	—

### Electrical

Item	Specification	Remark
Ignition type	Electronic ignition (Transistorized)	—
Spark plug	NGK CR9EIA-9 or DENSO IU27D	—
Battery	12 V 36.0 kC (10 Ah)/10 HR	—
Generator	Three-phase A.C. generator	—
Main fuse	30 A	—
Fuse	10/10/10/10/10/15 A	—
ABS fuse	20/15 A	—
Headlight	12 V 60/55 W (H4)	—
Brake light/Tail light	LED	—
Turn signal light	12 V 21 W x 4	—
License plate light	12 V 5 W	—
Instrument panel light	LED	—
Neutral indicator light	LED	—
High beam indicator light	LED	—
Turn signal indicator light	LED	—
Oil pressure/Coolant temperature indicator light	LED	—
MIL	LED	—
Traction control system indicator light	LED	—
ABS indicator light	LED	—

### Capacities

Item	Specification	Remark
Fuel tank	17.0 L (4.5 US gal, 3.7 Imp gal)	—
Engine oil	Oil change	2800 ml (3.0 US qt, 2.5 Imp qt)
	With filter change	3200 ml (3.4 US qt, 2.8 Imp qt)
Engine coolant	2.8 L (3.0 US qt, 2.5 Imp qt)	—

# Service Data GSX-S1000ZAL8

## E-03: USA, E-33: California

IDENTIFICATION CODE

### Emission Control Devices

Item	Specification	Standard	Limit
EVAP system purge control solenoid valve power supply voltage	E33	Battery voltage	
EVAP system purge control solenoid valve resistance	E33 20 °C (68 °F)	30 – 34 Ω	
PAIR control solenoid valve power supply voltage		Battery voltage	
PAIR control solenoid valve resistance	20 – 30 °C (68 – 86 °F)	20 – 24 Ω	

### Engine Electrical Devices

Item	Specification	Standard	Limit
AP sensor power supply voltage		4.75 – 5.25 V	—
AP sensor output voltage	Idle speed at 1 atm.	Approx. 2.8 V	—
IAP sensor power supply voltage		4.75 – 5.25 V	—
IAP sensor output voltage	Idle speed at 1 atm.	Approx. 2.7 V	—
IAT sensor power supply voltage		4.5 – 5.5 V	—
IAT sensor output voltage		0.15 – 4.85 V	—
IAT sensor resistance	0 °C (32 °F)	5400 – 6600 Ω	—
	80 °C (176 °F)	290 – 390 Ω	—
ECT sensor power supply voltage		4.5 – 5.5 V	—
ECT sensor resistance	–20 °C (–4 °F)	13840 – 16330 Ω	—
	20 °C (68 °F)	2320 – 2590 Ω	
	80 °C (176 °F)	310 – 326 Ω	
TP sensor power supply voltage		4.5 – 5.5 V	—
TP sensor output voltage	Closed	1.10 – 1.14 V	—
	Opened	Approx. 4.5 V	
STP sensor power supply voltage		4.5 – 5.5 V	—
STP sensor output voltage	Closed	0.57 – 0.67 V	—
	Opened	Approx. 4.5 V	
ISC valve resistance	20 °C (68 °F)	Approx. 20 Ω	—
HO2 sensor output voltage	Idle speed	0.6 V or less	—
	5000 r/min	0.6 V or more	
HO2 sensor heater power supply voltage		Battery voltage	—
HO2 sensor heater resistance	23 °C (73.4 °F)	11.5 – 17.5 Ω	—
CKP sensor peak voltage	When cranking	0.5 V or more	—
CKP sensor resistance	20 °C (68 °F)	Approx. 168 Ω	—
TO sensor power supply voltage		4.5 – 5.5 V	—
TO sensor output voltage	Normal	0.4 – 1.4 V	—
	Leaning 65°	3.7 – 4.4 V	
TO sensor resistance		16500 – 22300 Ω	—
ECM power supply voltage		Battery voltage	—

## Engine Mechanical

Item	Specification		Standard	Limit
Throttle body I.D. No.	E33		04K1	—
	E03		04K0	—
Throttle body bore size			44 mm (1.7 in)	—
Throttle cable play			2.0 – 4.0 mm (0.079 – 0.157 in)	—
Idle speed	When engine warmed		1150 ± 100 r/min	—
Fast idle speed			1150 – 2000 r/min	—
STVA resistance			Approx. 7.8 Ω	—
Compression pressure			1300 – 1700 kPa (13.3 – 17.3 kgf/cm <sup>2</sup> , 188 – 246 psi)	1000 kPa (10.2 kgf/cm <sup>2</sup> , 145 psi)
Compression pressure difference			—	200 kPa (2 kgf/cm <sup>2</sup> , 28 psi)
Cam height	Intake		36.78 – 36.83 mm (1.448 – 1.450 in)	36.48 mm (1.437 in)
	Exhaust		36.63 – 36.68 mm (1.443 – 1.444 in)	36.33 mm (1.431 in)
Camshaft journal oil clearance	Intake		0.032 – 0.066 mm (0.0013 – 0.0025 in)	0.150 mm (0.0059 in)
	Exhaust		0.032 – 0.066 mm (0.0013 – 0.0025 in)	0.150 mm (0.0059 in)
Camshaft journal holder I.D.	Intake		24.012 – 24.025 mm (0.9454 – 0.9458 in)	—
	Exhaust		24.012 – 24.025 mm (0.9454 – 0.9458 in)	
Camshaft journal O.D.	Intake		23.959 – 23.980 mm (0.9433 – 0.9440 in)	—
	Exhaust		23.959 – 23.980 mm (0.9433 – 0.9440 in)	
Camshaft runout	Intake & Exhaust		—	0.10 mm (0.004 in)
Cam chain pin	At arrow "3"		14th pin	—
Valve clearance	When engine cold	Intake	0.10 – 0.20 mm (0.0040 – 0.0078 in)	—
		Exhaust	0.20 – 0.30 mm (0.0079 – 0.0118 in)	
Valve diameter	Intake		30 mm (1.2 in)	—
	Exhaust		24 mm (0.94 in)	
Valve stem runout	Intake & Exhaust		—	0.05 mm (0.0019 in)
Valve head radial runout	Intake & Exhaust		—	0.03 mm (0.0011 in)
Valve head thickness	Intake		—	0.5 mm (0.019 in)
	Exhaust		—	0.5 mm (0.019 in)
Valve stem O.D.	Intake		4.475 – 4.490 mm (0.1762 – 0.1767 in)	—
	Exhaust		4.455 – 4.470 mm (0.1754 – 0.1759 in)	—
Valve seat width	Intake		0.9 – 1.1 mm (0.036 – 0.043 in)	—
	Exhaust		0.9 – 1.1 mm (0.036 – 0.043 in)	—

Item	Specification		Standard	Limit
Valve guide I.D.	Intake		4.500 – 4.512 mm (0.1772 – 0.1776 in)	—
	Exhaust		4.500 – 4.512 mm (0.1772 – 0.1776 in)	—
Valve guide to valve stem clearance	Intake		0.010 – 0.037 mm (0.0004 – 0.0014 in)	—
	Exhaust		0.030 – 0.057 mm (0.0012 – 0.0022 in)	—
Valve spring free length	Intake		—	37.3 mm (1.47 in)
	Exhaust		—	37.3 mm (1.47 in)
Valve spring pre-load	When compressed to 33.55 mm (1.321 in)	Intake	141 – 163 N (14.4 – 16.6 kgf, 31.7 – 36.6 lbs)	—
		Exhaust	141 – 163 N (14.4 – 16.6 kgf, 31.7 – 36.6 lbs)	—
Cylinder head distortion			—	0.20 mm (0.0078 in)
Cylinder distortion			—	0.20 mm (0.0078 in)
Cylinder bore			73.400 – 73.415 mm (2.8898 – 2.8903 in)	No nicks or Scratches
Piston diameter	Measure at 8 mm (0.3 in) from the skirt end.		73.370 – 73.385 mm (2.8886 – 2.8891 in)	73.280 mm (2.8851 in)
Piston to cylinder clearance			0.025 – 0.035 mm (0.0010 – 0.0013 in)	0.120 mm (0.0047 in)
Piston ring to groove clearance	1st		—	0.180 mm (0.0070 in)
	2nd		—	0.150 mm (0.0059 in)
Piston ring groove width	1st		0.81 – 0.83 mm (0.0319 – 0.0326 in)	—
	2nd		0.81 – 0.83 mm (0.0319 – 0.0326 in)	—
	Oil		1.51 – 1.53 mm (0.0595 – 0.0602 in)	—
Piston ring thickness	1st		0.77 – 0.79 mm (0.0304 – 0.0311 in)	—
	2nd		0.77 – 0.79 mm (0.0304 – 0.0311 in)	—
Piston ring free end gap	1st		Approx. 9 mm (0.4 in)	7.2 mm (0.29 in)
	2nd		Approx. 8 mm (0.3 in)	6.4 mm (0.26 in)
Piston ring end gap	1st		0.06 – 0.18 mm (0.0024 – 0.0070 in)	0.50 mm (0.019 in)
	2nd		0.06 – 0.18 mm (0.0024 – 0.0070 in)	0.50 mm (0.019 in)
Piston pin bore I.D.			16.002 – 16.008 mm (0.6300 – 0.6302 in)	16.030 mm (0.6311 in)
Piston pin O.D.			15.995 – 16.000 mm (0.6298 – 0.6299 in)	15.980 mm (0.6292 in)
Conrod small end I.D.			16.010 – 16.018 mm (0.6304 – 0.6306 in)	16.040 mm (0.6314 in)
Conrod big end side clearance			0.10 – 0.20 mm (0.0040 – 0.0078 in)	0.3 mm (0.011 in)
Conrod big end width			19.95 – 20.00 mm (0.7855 – 0.7874 in)	—



Item	Specification	Standard	Limit
Conrod big end I.D.		38.000 – 38.016 mm (1.4961 – 1.4966 in)	—
Conrod big end oil clearance		0.040 – 0.064 mm (0.0016 – 0.0025 in)	0.080 mm (0.0031 in)
Crank pin width		20.10 – 20.15 mm (0.7914 – 0.7933 in)	—
Crank pin O.D.		34.976 – 35.000 mm (1.3770 – 1.3779 in)	—
Crank pin bearing thickness		1.476 – 1.492 mm (0.0582 – 0.0587 in)	—
Crankshaft journal O.D.		34.982 – 35.000 mm (1.3773 – 1.3779 in)	—
Crankshaft journal oil clearance		0.010 – 0.028 mm (0.0004 – 0.0011 in)	0.080 mm (0.0031 in)
Crankcase journal I.D.		38.000 – 38.018 mm (1.4961 – 1.4967 in)	—
Crankcase journal bearing thickness		1.492 – 1.507 mm (0.0588 – 0.0593 in)	—
Crankshaft thrust bearing thickness	Right side	2.42 – 2.44 mm (0.0953 – 0.0960 in)	—
	Left side	2.36 – 2.50 mm (0.0930 – 0.0984 in)	—
Crankshaft thrust clearance		0.060 – 0.110 mm (0.0024 – 0.0043 in)	—
Crankshaft runout		—	0.05 mm (0.0019 in)
Balancer journal oil clearance		0.028 – 0.052 mm (0.0011 – 0.0020 in)	0.080 mm (0.0031 in)
Balancer journal O.D.		22.976 – 22.992 mm (0.9046 – 0.9051 in)	—

### Engine Lubrication System

Item	Specification	Standard	Limit
Oil pressure	At 60 °C (140 °F), 3000 r/min	100 – 400 kPa (1.0 – 4.1 kgf/cm <sup>2</sup> , 14.5 – 58.0 psi)	—
Necessary amount of engine oil	Oil change	2800 ml (3.0 US qt, 2.5 Imp qt)	—
	Oil and filter change	3200 ml (3.4 US qt, 2.8 Imp qt)	
	Engine overhaul	3400 ml (3.6 US qt, 3.0 Imp qt)	

### Cooling System

Item	Specification	Standard	Limit
Engine coolant	Engine side	Approx. 2500 ml (5.28 US qt, 4.40 Imp qt)	—
	Reservoir tank side	Approx. 250 ml (0.53 US qt, 0.44 Imp qt)	
Radiator cap valve opening pressure		107.9 – 137.3 kPa (1.1 – 1.4 kgf/cm <sup>2</sup> , 15.7 – 19.9 psi)	—
Cooling fan relay power supply voltage		Battery voltage	—
Cooling fan operating temperature	OFF → ON	Approx. 105 °C (221 °F)	—
	ON → OFF	Approx. 100 °C (212 °F)	
Thermostat valve opening temperature		Approx. 82 °C (179.6 °F)	—
Thermostat valve lift	95 °C (203 °F)	8 mm (0.3 in) or more	—

## Fuel System

Item	Specification	Standard	Limit
Fuel injector power supply voltage		Battery voltage	
Fuel injector resistance	20 °C (68 °F)	11.5 – 12.5 Ω	—
FP relay power supply voltage		Battery voltage	—
FP discharge amount	Per 10 seconds	223 ml (7.55 US oz, 7.85 Imp oz) or more	—
Fuel pressure regulator operating set pressure		289 – 299 kPa (2.95 – 3.04 kgf/cm <sup>2</sup> , 42.0 – 43.3 psi)	—

## Ignition System

Item	Specification	Standard	Limit
Firing order		1-2-4-3	—
Spark plug	Type	NGK: CR9EIA-9 / DENSO: IU27D	—
	Gap	0.8 – 0.9 mm (0.032 – 0.035 in)	—
Spark performance	At 1 atm	8 mm (0.3 in) or more	—
Ignition coil primary peak voltage		80 V or more	—
Ignition coil resistance	Primary	10 – 30 °C (50 – 86 °F)	1.1 – 1.9 Ω
	Secondary		6400 – 9600 Ω

## Starting System

Item	Specification	Standard	Limit
Starter motor brush length		12 mm (0.47 in)	8.5 mm (0.33 in)
Starter relay resistance		3 – 6 Ω	—
Side-stand switch voltage	ON (Side-stand retracted)	0.4 – 0.6 V	—
	OFF (Side-stand on the ground)	1.4 V or more	

## Charging System

Item	Specification	Standard	Limit
Battery leakage current		3 mA or less	—
Regulated voltage	Charging output	At 5000 r/min	14.0 – 15.5 V
Generator coil resistance	20 °C (68 °F)		0.12 – 0.18 Ω
Generator no-load voltage	When engine cold	At 5000 r/min	65 V (AC) or more
Recharging time	Standard charging		1.2 A for 5 to 10 hours
	Fast charging		5 A for 1 hour
Generator Max. output	At 5000 r/min		Approx. 385 W
Battery	Type designation		FT12A-BS
	Capacity		12 V 36.0 kC (10Ah)/10 HR

## Exhaust System

Item	Specification	Standard	Limit
EXCVA position sensor power supply voltage		4.5 – 5.5 V	—
EXCVA position sensor output voltage	Closed	0.45 – 1.40 V	—
	Opened	3.60 – 4.55 V	
EXCVA position sensor resistance	At adjustment position	Approx. 3100 Ω	—

## Front Suspension

Item	Specification	Standard	Limit
Front fork inner tube O.D.		43 mm (1.7 in)	—
Front fork oil level	Without spring, outer tube fully compressed	95 mm (3.7 in)	—
Front fork spring free length		271.1 mm (10.67 in)	265 mm (10.5 in)
Front fork oil capacity	Each leg	518 ml (17.52 US oz, 18.23 Imp oz)	—
Front fork spring adjuster		10 mm (0.39 in)	—
Front fork damping force adjuster	Rebound side	8 clicks counterclockwise from stiffest position	—
	Compression side	8 clicks counterclockwise from stiffest position	

## Rear Suspension

Item	Specification	Standard	Limit
Rear shock absorber spring adjuster		4th position	—
Rear shock absorber damping force adjuster	Rebound side	1 turn counterclockwise from stiffest position	—
Swingarm pivot shaft runout		—	0.3 mm (0.011 in)

## Wheels and Tires

Item	Specification		Standard	Limit
Wheel rim runout	Front	Axial & Radial	—	2.0 mm (0.08 in)
	Rear	Axial & Radial	—	2.0 mm (0.08 in)
Wheel axle runout	Front		—	0.25 mm (0.010 in)
	Rear		—	0.25 mm (0.010 in)
Tire size	Front		120/70ZR17M/C (58W)	—
	Rear		190/50ZR17M/C (73W)	
Tire type	Front		DUNLOP/D214F M	—
	Rear		DUNLOP/D214 M	
Tire tread depth (Recommended depth)	Front		—	1.6 mm (0.062 in)
	Rear		—	2.0 mm (0.078 in)
Cold inflation tire pressure	Solo riding	Front	250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)	—
		Rear	290 kPa (2.90 kgf/cm <sup>2</sup> , 42 psi)	
	Dual riding	Front	250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)	—
		Rear	290 kPa (2.90 kgf/cm <sup>2</sup> , 42 psi)	
Wheel rim size	Front		17 M/C x MT 3.50	—
	Rear		17 M/C x MT 6.00	

**Drive Chain / Drive Train / Drive Shaft**

Item	Specification	Standard	Limit
Drive chain	Type	RK525GSH	—
	Links	116 links	—
Drive chain 20-pitch length		—	319.4 mm (12.57 in)
Drive chain slack	On side-stand	20 – 30 mm (0.79 – 1.18 in)	—

**Brake Control System and Diagnosis**

Item	Specification	Standard	Limit
Rear brake pedal height		50 – 60 mm (2.0 – 2.3 in)	—
Master cylinder bore / piston diameter	Front	Approx. 19.1 mm (0.752 in)	—
	Rear	Approx. 14.0 mm (0.551 in)	

**Front Brakes**

Item	Specification	Standard	Limit
Front brake disc thickness		5.0 mm (0.20 in)	4.5 mm (0.18 in)
Front brake disc runout		—	0.30 mm (0.012 in)
Front brake caliper cylinder bore / piston diameter		Approx. 32 mm (1.3 in)	—

**Rear Brakes**

Item	Specification	Standard	Limit
Rear brake disc thickness		5.0 mm (0.20 in)	4.5 mm (0.18 in)
Rear brake disc runout		—	0.30 mm (0.012 in)
Rear brake caliper cylinder bore / piston diameter		Approx. 38.2 mm (1.50 in)	—

**ABS**

Item	Specification	Standard	Limit
Wheel speed sensor – sensor rotor clearance	Front	0.38 – 1.05 mm (0.0150 – 0.0413 in)	—
	Rear	0.42 – 1.08 mm (0.0166 – 0.0425 in)	—

**Manual Transmission**

Item	Specification	Standard	Limit
Gearshift fork to groove clearance	No.1	0.1 – 0.3 mm (0.004 – 0.011 in)	0.5 mm (0.019 in)
	No.3	0.1 – 0.3 mm (0.004 – 0.011 in)	0.5 mm (0.019 in)
Gearshift fork groove width	No.1	5.0 – 5.1 mm (0.197 – 0.200 in)	—
	No.3	5.0 – 5.1 mm (0.197 – 0.200 in)	
Gearshift fork thickness	No.1	4.8 – 4.9 mm (0.189 – 0.192 in)	—
	No.3	4.8 – 4.9 mm (0.189 – 0.192 in)	
Gearshift lever height		45 – 55 mm (1.8 – 2.1 in)	—
GP switch power supply voltage		4.5 – 5.5 V	—
GP switch voltage	From 1st to Top	0.6 V or more	—

## Clutch

Item	Specification	Standard	Limit
Clutch lever play		10 – 15 mm (0.4 – 0.6 in)	—
Clutch release screw		1/2 turn counterclockwise	—
Drive plate thickness		2.72 – 2.88 mm (0.107 – 0.113 in)	2.42 mm (0.0953 in)
Drive plate claw width		13.85 – 13.96 mm (0.5453 – 0.5496 in)	13.35 mm (0.5256 in)
Driven plate distortion		—	0.10 mm (0.0039 in)
Clutch spring free length		66.7 mm (2.63 in)	63.4 mm (2.50 in)

## Steering / Handlebar

Item	Specification	Standard	Limit
Steering tension initial force		2 – 5 N (0.21 – 0.50 kgf, 0.50 – 1.12 lbf)	—

## Wiring Systems

Item	Specification	Standard	Limit	
Fuse size	Headlight	HI	10 A	—
		LO	10 A	—
	Ignition	10 A	—	
	Signal	10 A	—	
	Fuel	10 A	—	
	Fan	15 A	—	
	Main	30 A	—	
	ABS motor	20 A	—	
ABS valve	15 A	—		

## Lighting Systems

Item	Specification	Standard	Limit
Headlight		12 V 60/55 W (H4)	—
Brake light/Taillight		LED	—
Turn signal light		12 V 21 W × 4	—
License plate light		12 V 5 W	—

## Combination Meter / Fuel Meter / Horn

Item	Specification	Standard	Limit
Speed sensor power supply voltage (Without ABS)	Front	Battery voltage	—
	Rear	Battery voltage	—
Instrument panel light		LED	—
Turn signal indicator light		LED × 2	—
High beam indicator light		LED	—
Neutral indicator light		LED	—
Oil pressure indicator light/Engine coolant temp. indicator light		LED	—
MIL		LED	—
Traction control system indicator light		LED	—
ABS indicator light		LED	—