



Motorcycle
2012 Model: GSX-R1000L2
Date: October 2011

MSRP \$13,799



Metallic Triton Blue / Glass Splash Black (GLR)

An Invitation To Own The Racetrack

Since its launch more than a decade ago, the GSX-R1000 has been synonymous with the invitation to Own The Racetrack. The latest advances in engine technology are remarkable to boost performance potential. Chassis enhancements deliver even better control. And styling refinements evoke the performance and handling advances.

New Features

1. Thanks to Suzuki 's uncompromising efforts to shave excess weight, the 2012 GSX-R1000 is 2kg (4.4lbs) lighter than its predecessor.
2. The 4-2-1 exhaust system, carrying a Suzuki Exhaust Tuning (SET) valve maximizing torque and improving throttle response, especially in the low-to-mid rpm range. And less weight at the back of the bike means better mass-centralization, turns into better handling performance.

3. Lighter, more durable forged pistons designed with the same Finite Element Method (FEM) and fatigue analysis technology used for MotoGP racing engines, and consequently the pistons are 11% lighter.
4. New pentagonal shaped ventilation holes (instead of rectangular shape in previous model) in the sides of each cylinder bore reduce pumping losses due to internal crankcase air-pressure resistance to downward piston movement.
5. Optimized camshaft profiles for great racing potential, developed using proven MotoGP racing engine technology.
6. Optimally shaped combustion chambers and an increased compression ratio of 12.9:1 (up from 12.8:1) promote low-range and mid-range performance and help to realize a broad torque curve.
7. Thinner material for the tappet skirts means a weight saving of 2.5 grams per tappet. The reduced inertial mass gave Suzuki the freedom to optimize the valve lift curve.
8. An engine control module (ECM) provides state-of-the-art engine management and has optimized settings to suit the single muffler, resulting in better fuel economy and linear throttle response.
9. The front disk brakes are equipped with the top-of-the-line radial-mount Brembo monobloc calipers and lighter Sunstar Engineering front discs.
10. Big Piston Front forks (BPF) with an endurance-race-proven design deliver superb feedback and responsive, stable operation, and are lightweight. For 2012 model, suspension settings are refined for the bike's lower weight and the shift in centre of gravity.
11. The lightweight and high-grip Bridgestone front and rear tires reduce unsprung weight for sharp handling.
12. Attention to rider comfort includes a carefully shaped seat with new high-grip leather for better holding feel.
13. The wheels have red pin stripes punctuated by "R" logos that highlight the bike's identity.
14. The bike's identity is emphasized by bigger "GSX-R" graphics and more extensive use of Suzuki's signature blue color on the bodywork.

Key Features

15. 999cm³ 4-cylinder engine, with Bore x Stroke of 74.5mm x 57.3mm brings enhanced throttle response across the entire rpm range and high potential for racetrack performance.
16. The compact engine enabled short wheelbase and 32mm long swingarm at the same time to improve racetrack performance.
17. Suzuki Composite Electrochemical Material (SCEM)-plated cylinders integrated into the upper crankcase, reduce friction and improving heat transfer, durability and ring seal.
18. 12-hole fuel injectors produce a fine fuel mist for more complete combustion, reducing fuel consumption and exhaust emissions.
19. Suzuki Drive Mode Selector (S-DMS) offers push-button selection of three performance settings to suit riding conditions and personal tastes. The switch is located on the left handlebar control module.
20. Iridium spark plugs produce a strong spark for efficient combustion.
21. Large, efficient radiator with a trapezoidal shape developed on factory team racebikes and a trapezoidal engine oil cooler both help reduce drag.
22. Race-proven back-torque-limiting clutch contributes to smoother downshifting and corner entry.
23. A lightweight and compact twin-spar frame made of five cast sections, mated with an arched swingarm made of three castings and one-piece die-cast rear subframe.
24. The rear brake system with single-piston caliper contributes to a reduction of unsprung weight.
25. Rear shock absorber features adjustable rebound damping, spring preload, and both high-speed and low-speed compression damping.
26. Electronically controlled steering damper provides lighter steering at slower speeds and more damping force at racetrack and highway speeds.
27. 3-way adjustable footpegs, adjustable shift lever, and short fuel tank help compose a comfortable riding position.
28. The edgy and clean GSX-R1000 styling incorporates fairing and bodywork details aimed at reducing turbulence and drag.

29. Distinctive multi-reflector headlight with vertically stacked high and low-beam halogen bulbs centered between position lights on each side.
30. Front and rear turn signals feature clear lenses over amber bulbs.
31. Instruments include a silver-ringed analog tachometer with LCD speedometer. LCD readouts include odometer, dual trip meters, reserve trip meter, clock, coolant temperature/oil pressure warning indicator, gear position indicator, lap timer/stopwatch, S-DMS setting indicator and bar-graph indicating the instrument lighting level, or brightness.
32. Optional single seat cowl can replace the tandem seat for an even more aggressive image and solo rides or track days.



Metallic Mat Black / Glass Splash Black (KGL)

SPECIFICATIONS

MODEL: GSX-R1000 (L2)
GSX-R1000UF (L2)

E-03, 14, 21, 24, 28, 33, 51
E-21

DIMENSIONS AND CURB MASS

Overall length.....	2045 mm (80.5 in)
Overall width.....	720 mm (28.3 in)
Overall height.....	1130 mm (44.5 in)
Wheelbase.....	1405 mm (55.3 in)
Ground clearance.....	130 mm (5.1 in)
Seat height.....	810 mm (31.9 in)
Curb mass.....	203 kg (448 lbs)

ENGINE

Type.....	4-stroke, liquid-cooled, DOHC
Number of cylinders.....	4
Bore.....	74.5 mm (2.933 in)
Stroke.....	57.3 mm (2.256 in)
Displacement.....	999 cm ³ (61.0 cu. in)
Compression ratio.....	12.9 : 1
Fuel system.....	Fuel injection
Air cleaner.....	Paper element
Starter system.....	Electric
Lubrication system.....	Wet sump
Idle speed.....	1150 ± 100 r/min

DRIVE TRAIN

Clutch.....	Wet multi-plate type
Transmission.....	6-speed constant mesh
Gearshift pattern.....	1-down, 5-up
Primary reduction ratio.....	1.617 (76/47)
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.....	2.470 (42/17)
Drive chain.....	DID50VAZ, 114 links

CHASSIS

Front suspension.....	Inverted telescopic, coil spring, oil damped
Rear suspension.....	Link type, coil spring, oil damped
Front fork stroke.....	125 mm (4.9 in)
Rear wheel travel.....	130 mm (5.1 in)
Caster.....	23°50'
Trail.....	98 mm (3.86 in)
Steering angle.....	27° (right & left)
Turning radius.....	3.4 m (11.2 ft)
Front brake.....	Disc brake, twin
Rear brake.....	Disc brake
Front tire.....	120/70ZR17M/C (58W), tubeless
Rear tire.....	190/50ZR17M/C (73W), tubeless

ELECTRICAL

Ignition type.....	Electronic ignition (Transistorized)
Ignition timing.....	3° B.T.D.C. at 1150 r/min
Spark plug.....	NGK CR9EIA-9 or DENSO IU27D
Battery.....	12V 36.0 kC (10 Ah)/10 HR
Generator.....	Three-phase A.C. generator
Main fuse.....	30A
Fuse.....	10/10/10/10/10/15A
Headlight.....	12V 55W (H11) + 12V 65W (H9)
Position/Parking light.....	12V 5W × 2
Brake/Tail light.....	LED
Turn signal light.....	12V 21W
License plate light.....	12V 5W
Combination meter light.....	LED
Neutral indicator light.....	LED
High beam indicator light.....	LED
Turn signal indicator light.....	LED
Oil pressure/Coolant temperature indicator light.....	LED
FI/SD indicator light.....	LED
Fuel level indicator light.....	LED
Engine RPM indicator light.....	LED
Immobilizer indicator light.....	LED..... E- 21, 24, 51

CAPACITIES

Fuel tank.....	16.5 L (4.4/3.6 US/Imp gal)..... E-14, 33
	17.5 L (4.6/3.8 US/Imp gal)..... Others
Engine oil, oil change.....	2800 ml (3.0/2.5 US/Imp qt)
with filter change.....	3300 ml (3.5/2.9 US/Imp qt)
overhaul.....	3600 ml (3.8/3.2 US/Imp qt)
Coolant.....	2.8 L (3.0/2.5 US/Imp qt)

Service Data

Specifications

Service Data (GSX-R1000L2)

BENC47H10307003

NOTE

Any differences between the GSX-R1000L1 ('11-model) and GSX-R1000L2 ('12-model) in service data are indicated with an asterisk mark (*) and highlighting (halftone screen).

Valve + Guide

Unit: mm (in)

Item		Standard	Limit
Valve diam.	IN.	31.0 (1.22)	—
	EX.	25.0 (0.98)	—
Valve clearance (when cold)	IN.	0.08 – 0.18 (0.003 – 0.007)	—
	EX.	0.20 – 0.30 (0.008 – 0.012)	—
Valve guide to valve stem clearance	IN.	0.010 – 0.037 (0.0004 – 0.0015)	—
	EX.	0.030 – 0.057 (0.0012 – 0.0022)	—
Valve guide I.D.	IN. & EX.	4.500 – 4.512 (0.1772 – 0.1776)	—
Valve stem O.D.	IN.	4.475 – 4.490 (0.1762 – 0.1768)	—
	EX.	4.455 – 4.470 (0.1754 – 0.1760)	—
Valve stem deflection	IN.	—	0.25 (0.010)
	EX.	—	* 0.35 (0.014)
Valve stem runout	IN. & EX.	—	0.05 (0.002)
* Valve head thickness	EX.	—	* 0.5 (0.02)
Valve seat width	IN. & EX.	0.9 – 1.1 (0.035 – 0.043)	—
Valve head radial runout	IN. & EX.	—	0.03 (0.001)
Valve spring free length	Inner	—	30.1 (1.19)
	Outer	—	35.3 (1.39)
Valve spring tension	Inner	31.3 – 38.3 N (3.2 – 3.9 kgf, 7.0 – 8.6 lbs) at length 27.55 mm (1.085 in)	—
	Outer	91.3 – 105.1 N (9.3 – 10.7 kgf, 20.5 – 23.6 lbs) at length 33.05 mm (1.301 in)	—

Camshaft + Cylinder Head

Unit: mm (in)

Item		Standard	Limit
Cam height	IN.	37.68 – 37.73 (1.483 – 1.485)	37.38 (1.472)
	EX.	* 36.98 – 37.03 (1.456 – 1.458)	* 36.68 (1.444)
Camshaft journal oil clearance	IN. & EX.	0.032 – 0.066 (0.0013 – 0.0026)	0.150 (0.0059)
Camshaft journal holder I.D.	IN. & EX.	24.012 – 24.025 (0.9454 – 0.9459)	—
Camshaft journal O.D.	IN. & EX.	23.959 – 23.980 (0.9433 – 0.9441)	—
Camshaft runout		—	0.10 (0.004)
Cam chain pin (at arrow "3")		14th pin	—
Cylinder head distortion		—	0.02 (0.0008)

Cylinder + Piston + Piston Ring

Unit: mm (in)

Item	Standard		Limit
Compression pressure	* 1 300 – 1 700 kPa (13 – 17 kgf/cm ² , 185 – 242 psi)		1 000 kPa (10 kgf/cm ² , 142 psi)
Compression pressure difference	—		200 kPa (2 kgf/cm ² , 28 psi)
Piston-to-cylinder clearance	* 0.025 – 0.035 (0.0010 – 0.0014)		0.120 (0.0047)
Cylinder bore	74.500 – 74.515 (2.9331 – 2.9337)		Nicks or scratches
Piston diam.	* 74.470 – 74.485 (2.9319 – 2.9325) Measure 8 mm (0.3 in) from the skirt end.		74.380 (2.9283)
Cylinder distortion	—		0.02 (0.0008)
Piston ring free end gap	1st	Approx. 7.0 (0.28)	5.6 (0.22)
	2nd	T Approx. 8.0 (0.32)	6.4 (0.25)
Piston ring end gap	1st	0.06 – 0.18 (0.002 – 0.007)	0.50 (0.020)
	2nd	0.06 – 0.18 (0.002 – 0.007)	0.50 (0.020)
Piston ring-to-groove clearance	1st	—	0.180 (0.0071)
	2nd	—	0.150 (0.0059)
Piston ring groove width	1st	0.83 – 0.85 (0.0327 – 0.0335)	—
		1.30 – 1.32 (0.0512 – 0.0520)	—
	2nd	0.81 – 0.83 (0.0319 – 0.0327)	—
Piston ring thickness	1st	0.76 – 0.81 (0.0299 – 0.0319)	—
		1.08 – 1.10 (0.0425 – 0.0433)	—
	2nd	0.77 – 0.79 (0.0303 – 0.0311)	—
Piston pin bore	15.002 – 15.008 (0.5906 – 0.5909)		15.030 (0.5917)
Piston pin O.D.	14.995 – 15.000 (0.5903 – 0.5512)		14.980 (0.5898)

Conrod + Crankshaft

Unit: mm (in)

Item	Standard		Limit
Conrod small end I.D.	15.010 – 15.018 (0.5909 – 0.5913)		15.040 (0.5921)
Conrod big end side clearance	0.10 – 0.20 (0.004 – 0.008)		0.30 (0.012)
Conrod big end width	19.95 – 20.00 (0.7854 – 0.7874)		—
Crank pin width	20.10 – 20.15 (0.7913 – 0.7933)		—
Conrod big end oil clearance	0.040 – 0.064 (0.0016 – 0.0025)		0.080 (0.0031)
Crank pin O.D.	34.976 – 35.000 (1.3770 – 1.3780)		—
Crankshaft journal oil clearance	* 0.010 – 0.028 (0.0004 – 0.0011)		0.080 (0.0031)
Crankshaft journal O.D.	34.982 – 35.000 (1.3772 – 1.3780)		—
Crankshaft thrust bearing thickness	Right side	2.420 – 2.440 (0.0953 – 0.0961)	—
	Left side	2.360 – 2.500 (0.0929 – 0.0984)	—
Crankshaft thrust clearance	0.060 – 0.110 (0.0024 – 0.0043)		—
Crankshaft runout	—		0.05 (0.002)

Balancer

Unit: mm (in)

Item	Standard	Limit
Balancer shaft journal oil clearance	0.028 – 0.052 (0.0011 – 0.0020)	0.080 (0.0031)
Balancer shaft journal O.D.	19.992 – 20.000 (0.7871 – 0.7874)	—

Oil Pump

Item	Standard	Limit
Oil pressure (at 60 °C, 140 °F)	100 – 400 kPa (1.0 – 4.0 kgf/cm ² , 14 – 57 psi) at 3 000 r/min	—

0C-3 Service Data:**Clutch**

Unit: mm (in)

Item	Standard		Limit
Clutch drive plate thickness	No. 1 & 2	3.22 – 3.38 (0.127 – 0.133)	2.92 (0.115)
Clutch drive plate claw width	No. 1 & 2	13.7 – 13.8 (0.539 – 0.543)	12.9 (0.508)
Clutch driven plate distortion	—		0.10 (0.004)
Clutch spring free length	* 52.06 (2.050)		* 49.5 (1.95)
Clutch lifter pin height	0.2 – 0.4 (0.008 – 0.016)		—
Wave spring washer height	—		4.30 (0.169)
Clutch lever play	10 – 15 (0.4 – 0.6)		—
Clutch release screw	1 turn counterclockwise		—

Drive Train

Unit: mm (in) Except ratio

Item	Standard		Limit
Primary reduction ratio	1.617 (76/47)		—
Final reduction ratio	2.470 (42/17)		—
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)	—
Gearshift fork to groove clearance	0.1 – 0.3 (0.004 – 0.012)		0.5 (0.02)
Gearshift fork groove width	5.0 – 5.1 (0.197 – 0.201)		—
Gearshift fork thickness	4.8 – 4.9 (0.189 – 0.193)		—
Drive chain	Type	DID50VAZ	—
	Links	114 links	—
	20-pitch length	—	319.4 (12.57)
Drive chain slack (on side-stand)	20 – 30 (0.8 – 1.2)		—
Gearshift lever height	65 – 75 (2.6 – 3.0)		—

Thermostat + Radiator + Cooling Fan + Coolant

Item	Standard/Specification		Note
Thermostat valve opening temperature	Approx. 82 °C (180 °F)		—
Thermostat valve lift	Over 8 mm (0.31 in) and at 95 °C (203 °F)		—
ECT sensor resistance	20 °C (68 °F)	Approx. 2.45 kΩ	—
	50 °C (122 °F)	Approx. 0.811 kΩ	—
	80 °C (176 °F)	Approx. 0.318 kΩ	—
	110 °C (230 °F)	Approx. 0.142 kΩ	—
Radiator cap valve opening pressure	93 – 123 kPa (0.9 – 1.2 kgf/cm ² , 13.2 – 17.5 psi)		—
Cooling fan operating temperature	OFF → ON	Approx. 105 °C (221 °F)	—
	ON → OFF	Approx. 100 °C (212 °F)	—
Engine coolant type	Use an anti-freeze/coolant compatible with aluminum radiator.		—
Engine coolant	Reservoir tank side	Approx. 250 ml (0.3/0.2 US/Imp qt)	—
	Engine side	Approx. 2 500 ml (2.6/2.2 US/Imp qt)	—

Injector + Fuel Pump + Fuel Pressure Regulator

Item	Specification	Note
Injector resistance	11 – 13 Ω at 20 °C (68 °F)	
Fuel pump discharge amount	222 ml (7.5/7.8 US/lmp oz) and more/10 sec.	
Fuel pressure regulator operating set pressure	Approx. 300 kPa (3.0 kgf/cm ² , 43 psi)	

FI Sensors

Item	Standard/Specification	Note
CKP sensor resistance	142 – 194 Ω	
CKP sensor peak voltage	0.5 V and more	When cranking
IAP sensor input voltage	4.5 – 5.5 V	
IAP sensor output voltage	Approx. 2.7 V at idle speed	
TP sensor input voltage	4.5 – 5.5 V	
TP sensor output voltage	Closed	Approx. 1.1 V
	Opened	Approx. 4.4 V
ECT sensor input voltage	4.5 – 5.5 V	
ECT sensor output voltage	0.15 – 4.85 V	
ECT sensor resistance	Approx. 2.45 k Ω at 20 °C (68 °F)	
IAT sensor input voltage	4.5 – 5.5 V	
IAT sensor output voltage	0.15 – 4.85 V	
IAT sensor resistance	Approx. 2.58 k Ω at 20 °C (68 °F)	
AP sensor input voltage	4.5 – 5.5 V	
AP sensor output voltage	Approx. 3.6 V at 100 kPa (760 mmHg)	
TO sensor resistance	16.5 – 22.3 k Ω	
TO sensor voltage	Normal	0.4 – 1.4 V
	Leaning	3.7 – 4.4 V
GP switch voltage	0.6 V and more	From 1st to Top
Injector voltage	Battery voltage	
Ignition coil primary peak voltage	80 V and more	When cranking
HO2 sensor output voltage	0.3 V and less at idle speed	
	0.6 V and more at 5 000 r/min	
HO2 sensor heater resistance	6.7 – 9.5 Ω at 23 °C (73 °F)	
PAIR control solenoid valve resistance	20 – 24 Ω at 20 – 30 °C (68 – 86 °F)	
STP sensor input voltage	4.5 – 5.5 V	
STP sensor output voltage	Closed	Approx. 0.7 V
	Opened	Approx. 4.1 V
STVA resistance	Approx. 6.5 Ω	
EXCVA position sensor input voltage	4.5 – 5.5 V	
EXCVA position sensor output voltage	Closed	0.45 – 1.4 V
	Opened	3.6 – 4.55 V
EXCVA position sensor resistance	Approx. 3.1 k Ω	At adjustment position
EVAP system purge control solenoid valve resistance	Approx. 32 Ω at 20 °C (68 °F)	E-14, 33
ISC valve resistance	Approx. 80 Ω at 20 °C (68 °F)	
Steering damper solenoid valve resistance	Approx. 12.5 Ω at 20 °C (68 °F)	
Steering damper solenoid valve voltage	Approx. 10 V	When battery fully charged

Throttle Body

Item	Specification
Bore size	44 mm (1.73 in)
I.D. No.	* 47H3 (For E-14, 33), 47H2 (For others)
Idle r/min	1 150 \pm 100 r/min
Throttle cable play	2.0 – 4.0 mm (0.08 – 0.16 in)

0C-5 Service Data:

Electrical

Unit: mm (in)

Item		Specification		Note	
Firing order		1 · 2 · 4 · 3			
Spark plug	Type	NGK: CR9EIA-9 DENSO: IU27D			
	Gap	0.8 – 0.9 (0.031 – 0.035)			
Spark performance		Over 8 (0.3) at 1 atm.			
CKP sensor resistance		142 – 194 Ω			
CKP sensor peak voltage		0.5 V and more		When cranking	
Ignition coil resistance	Primary	1.1 – 1.9 Ω		Terminal – Terminal	
	Secondary	6.4 – 9.6 kΩ		Plug cap – Terminal	
Ignition coil primary peak voltage		80 V and more		When cranking	
Generator coil resistance		0.12 – 0.6 Ω			
Generator maximum output		Approx. 375 W at 5 000 r/min			
Generator no-load voltage (When engine is cold)		85 V (AC) and more at 5 000 r/min			
Regulated voltage		14.0 – 15.5 V at 5 000 r/min			
Starter motor brush length	Standard	7.0 (0.28)			
	Limit	3.5 (0.14)			
Starter relay resistance		3 – 6 Ω			
Battery	Type designation	FT12A-BS			
	Capacity	12 V 36.0 kC (10 Ah)/10 HR			
Fuse size	Headlight	HI	10 A		
		LO	10 A		
	Ignition		* 10 A		
	Signal		10 A		
	Fuel		10 A		
	Fan		15 A		
Main		30 A			

Wattage

Unit: W

Item		Specification	
		E-21, 24, 51	E-03, 14, 28, 33
Headlight	HI	65	←
	LO	55	←
Position light		5 x 2	←
Brake/Tail light		LED	←
Turn signal light		21 x 4	←
License plate light		5	←
Combination meter light		LED	←
Turn signal indicator light		LED	←
High beam indicator light		LED	←
Neutral position indicator light		LED	←
Oil pressure/Engine coolant temp. indicator light		LED	←
FI/Steering damper indicator light		LED	←
Fuel level indicator light		LED	←
Engine RPM indicator light		LED	←
Immobilizer indicator light		LED	—

Brake + Wheel

Unit: mm (in)

Item	Standard		Limit
Rear brake pedal height	65 – 75 (2.6 – 3.0)		—
Brake disc thickness	Front	* 4.9 – 5.3 (0.19 – 0.21)	* 4.5 (0.18)
	Rear	4.8 – 5.2 (0.19 – 0.20)	4.5 (0.18)
Brake disc runout	—		0.30 (0.012)
Master cylinder bore & piston	Front	* Approx. 17.4 (0.69)	—
	Rear	* Approx. 14.0 (0.55)	—
Brake caliper cylinder bore & piston	Front	Leading	* Approx. 32.0 (1.26)
		Trailing	
	Rear	* Approx. 30.2 (1.19)	—
Brake fluid type	DOT 4		—
Wheel rim runout	Axial	—	2.0 (0.08)
	Radial		
Wheel rim size	Front	17 M/C x MT 3.50	—
	Rear	17 M/C x MT 6.00	—
Wheel axle runout	Front	—	0.25 (0.010)
	Rear		

Tire

Item	Standard		Limit
Cold inflation tire pressure (Solo riding)	Front	250 kPa (2.50 kgf/cm ² , 36 psi)	—
	Rear	290 kPa (2.90 kgf/cm ² , 42 psi)	—
Cold inflation tire pressure (Dual riding)	Front	250 kPa (2.50 kgf/cm ² , 36 psi)	—
	Rear	290 kPa (2.90 kgf/cm ² , 42 psi)	—
Tire size	Front	120/70 ZR17M/C (58 W)	—
	Rear	190/50 ZR17M/C (73 W)	—
Tire type	Front	* BRIDGESTONE S20F F	—
	Rear	* BRIDGESTONE S20R F	—
Tire tread depth (Recommended depth)	Front	—	1.6 mm (0.06 in)
	Rear	—	2.0 mm (0.08 in)

0C-7 Service Data:**Suspension**

Unit: mm (in)

Item	Standard		Limit
Front fork stroke	* 120 (4.7)		—
Front fork spring free length	* 235 (9.3)		* 230 (9.1)
Front fork oil level	* 78 (3.1) 72 (2.8) 10 min. after adjustment		—
Front fork oil type	* SHOWA SUSPENSION FLUID SS-47 or equivalent		—
Front fork oil capacity (Each leg)	* 544 ml (18.4/19.2 US/Imp oz)		—
Front fork inner tube O.D.	43 (1.7)		—
Front fork spring adjuster	* 5-1/2 turns clockwise from softest position		—
Front fork damping force adjuster	Rebound	4 turns counterclockwise from stiffest position	—
	Compression	* 5-1/4 turns counterclockwise from stiffest position	—
Rear shock absorber spring pre-set length	184.3 (7.26)		—
Rear shock absorber damping force adjuster	Rebound	2-3/4 turns counterclockwise from stiffed position	—
	Compression	Lo: 2-1/4 turns counterclockwise from stiffest position Hi: 3 turns counterclockwise from stiffest position	—
Rear wheel travel	130 (5.12)		—
Swingarm pivot shaft runout	—		0.3 (0.01)

Fuel + Oil

Item	Specification		Note
Fuel type	Use only unleaded gasoline of at least 90 pump octane (R/2 + M/2). Gasoline containing MTBE (Methyl Tertiary Butyl Ether), less than 10% ethanol, or less than 5% methanol with appropriate cosolvents and corrosion inhibitor is permissible.		E-03, 14, 28, 33
	Gasoline used should be graded 95 octane (Research Method) or higher. Use unleaded gasoline only.		E-21, 24, 51
Fuel tank capacity	Including reserve	16.5 L (4.4/3.6 US/Imp gal) 17.5 L (4.6/3.8 US/Imp gal)	E-14, 33 Others
	Fuel level indicator light lighting	Approx. 3.5 L (0.9/0.8 US/Imp gal)	
Engine oil type	SAE 10W-40, API SF/SG or SH/SJ with JASO MA		
Engine oil capacity	Change	2 800 ml (3.0/2.5 US/Imp qt)	
	Filter change	3 300 ml (3.5/2.9 US/Imp qt)	
	Overhaul	3 600 ml (3.8/3.2 US/Imp qt)	

Tightening Torque List (GSX-R1000L2)

Engine

Item		N·m	kgf·m	lbf·ft	
Exhaust pipe bolt		23	2.3	16.5	
Exhaust support bolt		23	2.3	16.5	
Muffler connecting bolt		18	1.8	13.0	
Muffler support bolt		26	2.6	19.0	
Speed sensor rotor bolt		28	2.8	20.0	
Speed sensor mounting bolt		6.5	0.65	4.5	
Engine sprocket nut		145	14.5	105.0	
Engine mounting bolt (Cylinder)		55	5.5	39.8	
Engine mounting nut (Crankcase)		75	7.5	54.0	
Engine mounting thrust adjuster		23	2.3	16.5	
Engine mounting thrust adjuster lock-nut		45	4.5	32.5	
Engine mounting pinch bolt		23	2.3	16.5	
Cylinder head cover bolt	Initial	10	1.0	7.0	
	Final	14	1.4	10.0	
PAIR reed valve cover bolt		10	1.0	7.0	
Spark plug		11	1.1	8.0	
Cam chain guide No. 2 bolt		10	1.0	7.0	
Cam chain guide No. 1 bolt		23	2.3	16.5	
Camshaft journal holder bolt		10	1.0	7.0	
Cam chain tension adjuster service cap		23	2.3	16.5	
Cam chain tension adjuster mounting bolt		10	1.0	7.0	
Cam chain tensioner bolt		23	2.3	16.5	
Cylinder head bolt	[M10]	31 N·m (3.1 kgf·m, 22.5 lbf·ft) then turn in 1/6 (60°) turn			
	[M6]	10	1.0	7.0	
Water jacket plug		9.5	0.95	6.9	
Clutch cover bolt		10	1.0	7.0	
Clutch sleeve hub nut		95	9.5	68.5	
Clutch spring set bolt		10	1.0	7.0	
Clutch release adjuster cap		11	1.1	8.0	
Clutch release adjusting screw lock-nut		6	0.6	4.5	
Clutch lifter pin lock-nut		23	2.3	16.5	
Valve timing inspection cap		11	1.1	8.0	
Starter clutch bolt		54	5.4	39.0	
Generator cover bolt		10	1.0	7.0	
Generator rotor bolt		145	14.5	105.0	
Generator stator set bolt		11	1.1	8.0	
Generator lead wire set bolt		5.5	0.55	4.0	
Oil pressure switch		14	1.4	10.0	
Oil pressure switch lead wire screw		1.5	0.15	1.0	
Oil filter		20	2.0	14.5	
Crankshaft journal bolt	[M9]	18 N·m (1.8 kgf·m, 13.0 lbf·ft) then turn in 50°			
Crankcase bolt	[M6]	12	1.2	8.5	
	[M8]	Initial	15	1.5	11.0
		Final	26	2.6	19.0
Oil gallery plug	Cylinder head	10	1.0	7.0	
	[M6]	10	1.0	7.0	
	[M10]	18	1.8	13.0	
	[M12]	15	1.5	11.0	
	[M26]	11	1.1	8.0	
Oil drain plug		23	2.3	16.5	
Piston cooling oil jet bolt		10	1.0	7.0	
Oil pump mounting bolt		10	1.0	7.0	
Oil pump driven sprocket bolt		10	1.0	7.0	
Conrod cap bolt		37 N·m (3.7 kgf·m, 26.5 lbf·ft) then turn in 1/6 (60°) turn			

0C-9 Service Data:

Item	N-m	kgf-m	lbf-ft
Breather cover bolt	10	1.0	7.0
Oil pan bolt	10	1.0	7.0
Oil cooler mounting bolt	5.5	0.55	4.0
Driveshaft bearing case bolt (LH and RH)	12	1.2	8.7
Driveshaft oil seal retainer screw	12	1.2	8.7
Gearshift arm stopper	19	1.9	13.5
Gearshift cam stopper bolt	10	1.0	7.0
Gearshift cam plate bolt	13	1.3	9.5
Gearshift cam bearing retainer screw	10	1.0	7.0
Gearshift shaft end screw	8.5	0.85	6.0
GP switch mounting bolt	6.5	0.65	4.5
Starter motor mounting bolt	10	1.0	7.0
Starter motor lead wire mounting bolt	4	0.4	3.0
Starter motor housing bolt	5	0.5	3.5
Regulator/rectifier mounting bolt	10	1.0	7.0
Intake pipe bolt	8.5	0.85	6.5
Bypass hose union	12	1.2	8.5

FI System + Intake Air System

Item	N-m	kgf-m	lbf-ft
CMP sensor bolt	10	1.0	7.0
TP sensor mounting screw	3.5	0.35	2.5
STP sensor mounting screw	3.5	0.35	2.5
ISC valve mounting screw	2	0.2	1.5
CKP sensor mounting bolt	6.5	0.65	4.5
HO2 sensor	25	2.5	18.0
Fuel delivery pipe mounting screw	3.5	0.35	2.5
Fuel pump mounting bolt	10	1.0	7.0
EXCVA pulley mounting bolt	5	0.5	3.5
IAT sensor mounting screw	1.3	0.13	1.0
EVAP system purge control solenoid valve mounting nut (E-14, 33)	6.5	0.65	4.5
EVAP system purge control solenoid valve bracket bolt (E-14, 33)	10	1.0	7.0

Cooling System

Item	N-m	kgf-m	lbf-ft
Impeller securing bolt	8	0.8	6.0
Water pump case screw	6	0.6	4.5
Water pump mounting bolt	10	1.0	7.0
ECT sensor	18	1.8	13.0
Thermostat cover bolt	10	1.0	7.0
Water inlet connector bolt	10	1.0	7.0
Water pump air bleeder bolt	13	1.3	9.5
Water bypass union	12	1.2	8.5
Radiator bracket bolt	5.5	0.55	4.0

Chassis

Item	N-m	kgf-m	lbf-ft
Steering stem head nut	90	9.0	65.0
Steering stem lock-nut	80	8.0	58.0
Steering damper bolt	23	2.3	16.5
Steering damper nut	23	2.3	16.5
Front fork clamp bolt (Upper and Lower)	23	2.3	16.5
Front fork cap	35	3.5	25.5
Front fork piston rod nut	28	2.8	20.0
Rod guide case	90	9.0	65.0
Front axle nut	100	10.0	72.5
Front axle pinch bolt	23	2.3	16.5
Handlebar clamp bolt	23	2.3	16.5
Front brake master cylinder holder bolt (Upper and Lower)	10	1.0	7.0
Front brake caliper mounting bolt	39	3.9	28.0
Brake hose union bolt	23	2.3	16.5
Air bleeder valve (Front caliper)	7.5	0.75	5.5
Air bleeder valve (Rear caliper)	6	0.6	4.5
Air bleeder valve (Front master cylinder)	6	0.6	4.5
Brake disc bolt (Front)	18	1.8	13.0
Brake disc bolt (Rear)	35	3.5	25.5
Rear brake pad mounting pin	17	1.7	12.5
Rear brake pad mounting pin plug	2.5	0.25	2.0
Rear brake master cylinder mounting bolt	10	1.0	7.0
Rear brake master cylinder rod lock-nut	17	1.7	12.5
Rear brake caliper sliding pin A	27	2.7	19.5
Rear brake caliper sliding pin B	12	1.2	8.5
Brake lever pivot bolt	1	0.1	0.7
Brake lever pivot bolt lock-nut	6	0.6	4.5
Swingarm pivot shaft	15	1.5	11.0
Swingarm pivot nut	100	10.0	72.5
Swingarm pivot lock-nut	90	9.0	65.0
Swingarm pivot boss nut	65	6.5	47.0
Cushion lever mounting nut	98	9.8	71.0
Cushion rod mounting nut (Front and Rear)	98	9.8	71.0
Rear shock absorber bracket nut	115	11.5	83.0
Rear shock absorber mounting nut (Upper and Lower)	50	5.0	36.0
Rear axle nut	100	10.0	72.5
Rear sprocket nut	60	6.0	43.0
Rear combination light mounting bolt	2.8	0.28	2.0
License plate light mounting nut	5	0.5	3.5
Side-stand nut	40	4.0	29.0
Side-stand bolt	50	5.0	36.0
Side-stand bracket mounting bolt	50	5.0	36.0
Bank sensor bolt	18	1.8	13.0
Footrest bracket bolt	23	2.3	16.5
Footrest guard screw	4.5	0.45	3.0
Footrest holder bolt	35	3.5	25.5
Pillion footrest bolt	23	2.3	16.5
Seat rail mounting bolt	50	5.0	36.0
Cowling brace mounting bolt	23	2.3	16.5
Rear view mirror mounting nut	10	1.0	7.0