

# Features & Specifications

## 2019 GSX250R ABS



**GSX250RZAL9**

*BEE: Metallic Crystal Blue / Pearl Glacier White No. 2*

### Overview

The 2019 GSX250R ABS is a fully faired street machine that brings the excitement and riding satisfaction of Suzuki's sportbike heritage to a broader audience. Built to introduce Suzuki fun and reliability to new riders, this sportbike has smart performance, engaging styling, and comfort features that will appeal to a broad base of enthusiasts.

This approachable street sportbike features a proven, twin cylinder, fuel injected engine wrapped in stylish full-fairing bodywork. With responsive yet easy-to-control performance, exceptional fuel efficiency, nimble handling, and a comfortable riding position, the GSX250R ABS is equally at home on the daily commute as it is on extended outings.

A low seat height, slim fuel tank and overall light weight make the GSX250R ABS an exciting and unimposing ride. Ten-spoke aluminum wheels, anti-lock brakes (ABS\*), and tuned KYB suspension keep the bike nimble and responsive for city streets as well as open roads. With a four-gallon fuel tank and highly efficient powerplant, the GSX250R has a riding range of well over 250 miles.

The GSX250R ABS is part of Suzuki's unrivaled selection of small-displacement motorcycles created specifically to appeal to a variety of riders. From the unique VanVan 200 to the fuel efficient DR200S DualSport to the classic-looking TU250X to the GSX250R sportbike, Suzuki provides an assortment of sensible, accessible models to choose from.

### Key Features

- Here's a fully-faired, quarter-liter sportbike with aggressive, flowing styling true to the Suzuki sportbike heritage. The Metallic Crystal Blue/Pearl Glacier White paint scheme brings big bike quality to the 250 class.
- Fuel injected, twin cylinder engine delivers a responsive, broad power band with class-leading fuel economy of approximately 76 mpg.
- The GSX250R ABS features a reverse-lit LCD instrument panel and a bright halogen headlight, plus distinctive position lamps and tail light using new tech, surface-emitting LEDs.
- Comfortable, roomy ergonomics for rider and passenger, with a slim fuel tank that helps the rider easily plant their feet on the ground when stopped.
- Ten-spoke, cast aluminum wheels, petal-type brake rotors, and quality KYB suspension components round out a chassis ready for any riding assignment.

## Engine Features

- The 248cc, parallel-twin engine that powers the GSX250R ABS has been refined to maximize low- to mid-range torque to deliver a power characteristic that emphasizes ease of control.
- Intelligent engine design and fuel-injection (EFI) tuning yields class-leading fuel economy while satisfying worldwide emission requirements.
- The EFI also stabilizes the engine idle and helps provide nearly linear throttle response for clean, exciting performance.
- The camshaft profile maximizes engine performance when riding at road speeds of 15 to 55 mph. This helps the GSX250R ABS deliver true, practical performance.
- The valve train employs roller-type rocker arms for valve actuation to reduce mechanical losses.
- The intake valves have a slim stem profile near the head to optimize airflow into the combustion chamber.
- Low-tension piston rings are used to reduce friction, while a special honing pattern on the cylinder wall increases oil retention for additional friction reduction.
- A coupling-type balancer shaft fitted to the engine's crankshaft reduces vibration and enhances rider comfort.
- A uniquely styled oil pump is used in the GSX250R ABS to reduce frictional loss while providing excellent engine lubrication.
- Dual head-pipes effectively route the exhaust through a high-flow catalyzer and into a stylish solo muffler covered with a buffed stainless steel shield.
- Designed to get the most out of the engine's mid-range performance and emit a pleasing sound, the GSX250R ABS's exhaust is lightweight and stylish.
- A six-speed transmission, with gear ratios well-mated to the engine output, further improves low- to mid-range power delivery.

## Chassis Features

- Suzuki's sporting essence is present in the GSX250R ABS's full bodywork that features an aggressive style with a futuristic flair. Select styling cues from historic and current Suzuki sportbikes appeal to both new and experienced riders.
- The fairing routes cooling air to the radiator while moving hot air from the engine away from the rider.
- The front of the motorcycle features unique dual LED position lights, angular fairing-mounted mirrors, and an effective sport windshield that incorporates slots to reduce wind buffeting.
- The sharp tail has styling and an LED tail light reminiscent of a GSX-R1000R.
- The stylish and trim fuel tank holds 4.0 US gallons (15.0 liters) of gasoline for excellent riding range. With a full tank of gasoline, the GSX250R ABS has a riding range of approximately 280 miles.
- The comfortable, contoured rider's seat has a low seat height of 31.1 inches (790mm).
- The separate rear seat is set higher so the passenger has a better view over the rider's shoulder.
- The semi double-cradle frame provides exceptional support for the GSX250R ABS's effective running gear and exciting bodywork.
- The well-tuned telescopic front fork soaks up bumps for smooth tracking up front – whether riding irregular city streets or faster open roads.
- Rear suspension action is handled by a mono-shock system that stays hidden from view to augment the bike's performance style. With seven-way adjustable spring preload, the rear suspension can be tuned for a passenger or cargo.
- The clip-on handlebar's design and reach were developed to provide a comfortable riding position.
- The five-way adjustable front brake lever allows the rider to position the lever for comfort and confidence.

## Chassis Features (continued)

- Hydraulic, antilock-equipped (ABS\*) disc brakes front and rear grasp petal-style stainless steel rotors to provide consistent and controlled braking whether commuting on city streets or roaming the open road.
- Ten-spoke 17-inch cast aluminum wheels hold road-grabbing IRC tires that provide sporting performance through a variety of road conditions.

## Electrical Features

- The GSX250R ABS is equipped with a back-lit multifunction LCD instrumentation panel that displays a variety of information.
- At the top of the display is a bar-graph tachometer, and in the center is a large digital speedometer with a convenient digital clock and digital gear position indicator.
- Also present in the panel is an odometer, twin trip meter, fuel gauge readouts, and a service reminder. A bright, programmable shift light is joined by LED alert indicators for the turn signals, engine functions, ABS, and high beam.
- The bright halogen headlight is bracketed by a pair of distinctive position lamps using high-tech, surface-emitting LEDs.
- The rear tail light also uses surface-emitting LEDs for excellent visibility to traffic.
- The turn signals feature amber incandescent bulbs with clear lenses and are well placed to not interfere with a passenger or luggage.
- Projected tip-style spark plugs speed up the rate of combustion, improving throttle response and fuel economy.
- The GSX250R ABS uses an open-type regulator/rectifier to reduce charging-system draw that can rob power from the engine. A maintenance-free battery makes sure the motorcycle starts quickly each time.

## Additional Features

- 12-month limited warranty with unlimited mileage. Longer coverage periods with other benefits are available through Suzuki Extended Protection (SEP).
- Three dimensional “S” badges on the fairing and upper fork bracket celebrate the Suzuki brand and its heritage of technological and styling excellence.
- A variety of Genuine Suzuki Accessories for GSX250R ABS owners are available including a large selection of Suzuki logo apparel.
- For more details, please visit [www.suzukicycles.com](http://www.suzukicycles.com).

*\*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.*

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# Specifications GSX250RZAL9

E-03: USA, E-33: California

## Dimensions and curb mass

Item	Specification	Remark
Overall length	2085 mm (82.1 in)	—
Overall width	740 mm (29.1 in)	—
Overall height	1110 mm (43.7 in)	—
Wheelbase	1430 mm (56.3 in)	—
Ground clearance	160 mm (6.3 in)	—
Seat height	790 mm (31.1 in)	—
Curb mass	181 kg (399 lbs)	—

## Engine

Item	Specification	Remark
Type	Four-stroke, liquid-cooled, SOHC	—
Number of cylinders	2	—
Bore	53.5 mm (2.106 in)	—
Stroke	55.2 mm (2.173 in)	—
Displacement	248 cm <sup>3</sup> (1.51 cu. in)	—
Compression ratio	11.5 : 1	—
Fuel system	Fuel injection	—
Air cleaner	Non-woven fabric element	—
Starter system	Electric	—
Lubrication system	Wet sump	—
Idle speed	1400 ± 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	3.238 (68/21)	—
Gear ratios	Low	2.416 (29/12)
	2nd	1.529 (26/17)
	3rd	1.181 (26/22)
	4th	1.043 (24/23)
	5th	0.909 (20/22)
	Top	0.807 (21/26)
Final reduction ratio	3.285 (46/14)	—
Drive chain	RK520KRO, 116 links	—

## Chassis

Item	Specification	Remark
Front suspension	Telescopic, coil spring, oil damped	—
Rear suspension	Swingarm type, coil spring, oil damped	—
Front fork stroke	115 mm (4.5 in)	—
Rear wheel travel	125 mm (4.9 in)	—
Steering angle	34° (right and left)	—
Caster	25.6°	—
Trail	104 mm (4.1 in)	—
Turning radius	2.9 m (9.5 ft)	—
Front brake	Disc brake	—
Rear brake	Disc brake	—
Front tire size	110/80-17M/C 57H, tubeless	—
Rear tire size	140/70-17M/C 66H, tubeless	—

# Specifications GSX250RZAL9

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

### Electrical

Item	Specification	Remark
Ignition type	Electronic ignition (Transistorized)	—
Spark plug	NGK CPR7EA-9 or DENSO U22EPR9	—
Battery	12 V 28.8 kC (8 Ah)/10 HR	—
Generator	Three-phase A.C. generator	—
Main fuse	30 A	—
Fuse	10 A	—
ABS Fuse	25/15 A	—
Headlight	12 V 60/55 W (H4)	—
Turn signal light	12 V 21 W × 4	—
Brake light/Taillight	LED	—
License plate light	12 V 5 W	—
Instrument panel light	LED	—
Neutral indicator light	LED	—
Hi beam indicator light	LED	—
Turn signal indicator light	LED	—
Oil pressure indicator light	LED	—
Engine coolant temperature indicator light	LED	—
Engine RPM indicator light	LED	—
MIL	LED	—
ABS indicator light	LED	—

### Capacities

Item	Specification	Remark
Fuel tank	15 L (4.0 US gal, 3.3 Imp gal)	—
Engine oil	Oil change	2100 ml (2.2 US qt, 1.8 Imp qt)
	With filter change	2200 ml (2.3 US qt, 1.9 Imp qt)
Engine coolant	1350 ml (1.4 US qt, 1.2 Imp qt)	—



# Service Data GSX250RZAL9

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

### Emission Control Devices

Item	Specification	Standard	Limit
EVAP system purge control solenoid valve power supply voltage		Battery voltage	—
EVAP system purge control solenoid valve resistance	20 °C (68 °F)	30 – 34 Ω	—
PAIR control solenoid valve power supply voltage		Battery voltage	—
PAIR control solenoid valve resistance	20 °C (68 °F)	18 – 22 Ω	—

### Engine Electrical Devices

Item	Specification	Standard	Limit
IAP sensor power supply voltage		4.75 – 5.25 V	—
IAP sensor output voltage	Idle speed at 1 atm.	Approx. 2.8 V	—
IAT sensor power supply voltage		4.5 – 5.5 V	—
IAT sensor resistance	20 °C (68 °F)	2210 – 2690 Ω	—
	80 °C (176 °F)	Approx. 322 Ω	—
ECT sensor power supply voltage		4.5 – 5.5 V	—
ECT sensor resistance	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	4.2 – 4.6 V	—
ISC valve resistance	20 °C (68 °F)	Approx. 20 Ω	—
HO2 sensor output voltage	Idle speed	0.4 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	1.5 V or more	—
CKP sensor resistance	20 °C (68 °F)	150 – 230 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.		48H3	—
Throttle body bore size		26 mm (1.0 in)	—
Throttle cable play		2.0 – 4.0 mm (0.079 – 0.16 in)	—
Idle speed	When engine warmed	1400 ± 100 r/min	—
Fast idle speed		1500 ± 100 r/min	—
Compression pressure		1500 – 1900 kPa (15.3 – 19.3 kgf/cm <sup>2</sup> , 218 – 275 psi)	1200 kPa (12.3 kgf/cm <sup>2</sup> , 174 psi)
Compression pressure difference		—	200 kPa (2 kgf/cm <sup>2</sup> , 29 psi)
Cam height	Intake	33.54 – 33.58 mm (1.321 – 1.322 in)	33.24 mm (1.309 in)
	Exhaust	33.16 – 33.20 mm (1.306 – 1.307 in)	32.86 mm (1.294 in)
Camshaft journal oil clearance		0.032 – 0.066 mm (0.0013 – 0.0025 in)	0.150 mm (0.0059 in)
Camshaft journal holder I.D.		22.012 – 22.025 mm (0.8667 – 0.8671 in)	—
Camshaft journal O.D.		21.959 – 21.980 mm (0.8646 – 0.8653 in)	—
Camshaft runout		—	0.10 mm (0.004 in)
Rocker arm I.D.	Intake	12.003 – 12.018 mm (0.4726 – 0.4731 in)	—
	Exhaust	12.003 – 12.018 mm (0.4726 – 0.4731 in)	—
Rocker arm shaft O.D.	Intake	11.986 – 11.994 mm (0.4719 – 0.4722 in)	—
	Exhaust	11.986 – 11.994 mm (0.4719 – 0.4722 in)	—
Valve clearance	When engine cold	Intake	0.05 – 0.10 mm (0.0020 – 0.0039 in)
		Exhaust	0.17 – 0.22 mm (0.0067 – 0.0086 in)
Valve diameter	Intake	27 mm (1.1 in)	—
	Exhaust	22.5 mm (0.886 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 deflection	Intake & Exhaust	—	0.35 mm (0.013 in)
Valve stem O.D.	Intake	4.975 – 4.990 mm (0.1959 – 0.1964 in)	—
	Exhaust	4.955 – 4.970 mm (0.1951 – 0.1956 in)	—
Valve stem end length	Intake	—	1.7 mm (0.067 in)
	Exhaust	—	1.7 mm (0.067 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)	—
Valve guide I.D.	Intake	5.000 – 5.012 mm (0.1969 – 0.1973 in)	—
	Exhaust	5.000 – 5.012 mm (0.1969 – 0.1973 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	Inner	—	36.6 mm (1.44 in)
	Outer	—	38.4 mm (1.52 in)

Item	Specification		Standard	Limit
Valve spring pre-load	When compressed to 28.0 mm (1.10 in)	Inner	58.2 – 71.2 N (6.0 – 7.2 kgf, 13.1 – 16.0 lbf)	—
	When compressed to 31.5 mm (1.24 in)	Outer	132.2 – 152.2 N (13.5 – 15.5 kg, 29.8 – 34.2 lbf)	—
Cylinder head distortion			—	0.10 mm (0.0039 in)
Cylinder distortion			—	0.10 mm (0.0039 in)
Cylinder bore			53.500 – 53.515 mm (2.1063 – 2.1068 in)	53.590 mm (2.1098 in)
Piston diameter	Measure at 10 mm (0.39 in) from the skirt end.		53.455 – 53.470 mm (2.1046 – 2.1051 in)	53.380 mm (2.1016 in)
Piston to cylinder clearance			0.04 – 0.05 mm (0.0016 – 0.0019 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. 5.1 mm (0.20 in)	4.0 mm (0.16 in)
	2nd		Approx. 4.1 mm (0.16 in)	3.2 mm (0.13 in)
Piston ring end gap	1st		0.15 – 0.27 mm (0.0059 – 0.0106 in)	0.50 mm (0.019 in)
	2nd		0.15 – 0.27 mm (0.0059 – 0.0106 in)	0.50 mm (0.019 in)
Piston pin bore I.D.			15.002 – 15.008 mm (0.5907 – 0.5908 in)	15.030 mm (0.5917 in)
Piston pin O.D.			14.996 – 15.000 mm (0.5904 – 0.5905 in)	14.980 mm (0.5898 in)
Conrod small end I.D.			15.006 – 15.014 mm (0.5908 – 0.5911 in)	15.040 mm (0.5921 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)	—
Conrod big end I.D.			34.000 – 34.016 mm (1.3386 – 1.3392 in)	—
Conrod big end oil clearance			0.024 – 0.048 mm (0.0010 – 0.0018 in)	0.080 mm (0.0031 in)
Crank pin width			20.10 – 20.15 mm (0.7914 – 0.7933 in)	—
Crank pin O.D.			30.984 – 31.008 mm (1.2199 – 1.2207 in)	—
Crank pin bearing thickness			1.480 – 1.496 mm (0.0583 – 0.0588 in)	—
Crankshaft journal O.D.			29.976 – 30.000 mm (1.1802 – 1.1811 in)	—
Crankshaft journal oil clearance			0.016 – 0.040 mm (0.0007 – 0.0015 in)	0.080 mm (0.0031 in)
Crankcase journal I.D.			33.000 – 33.016 mm (1.2993 – 1.2998 in)	—
Crankcase journal bearing thickness			1.488 – 1.504 mm (0.0586 – 0.0592 in)	—
Crankshaft thrust bearing thickness	Left side		2.450 – 2.475 mm (0.0965 – 0.0974 in)	—
	Right side		2.450 – 2.625 mm (0.0965 – 0.1033 in)	—
Crankshaft thrust clearance			0.050 – 0.105 mm (0.0020 – 0.0041 in)	—
Crankshaft runout			—	0.05 mm (0.0019 in)
Balancer journal oil clearance			0.020 – 0.044 mm (0.0008 – 0.0017 in)	0.080 mm (0.0031 in)





Item	Specification	Standard	Limit
Balancer journal O.D.		27.976 – 28.000 mm (1.1015 – 1.1023 in)	—
Balancer spring free length		—	10.3 mm (0.406 in)

### Engine Lubrication System

Item	Specification	Standard	Limit
Oil pressure	At 60 °C (140 °F), 3000 r/min	150 – 450 kPa (1.6 – 4.5 kgf/cm <sup>2</sup> , 21.8 – 65.2 psi)	—
Necessary amount of engine oil	Oil change	2100 ml (2.2 US qt, 1.8 Imp qt)	—
	Oil and filter change	2200 ml (2.3 US qt, 1.9 Imp qt)	—
	Engine overhaul	2400 ml (2.5 US qt, 2.1 Imp qt)	—

### Engine Cooling System

Item	Specification	Standard	Limit
Engine coolant	Engine side	Approx. 1100 ml (1.16 US qt, 0.97 Imp qt)	—
	Reservoir tank side	Approx. 250 ml (0.26 US qt, 0.22 Imp qt)	—
Radiator cap valve opening pressure		93.3 – 122.7 kPa (1.0 – 1.2 kgf/cm <sup>2</sup> , 13.6 – 17.7 psi)	—
Cooling fan relay power supply voltage		Battery voltage	—
Cooling fan operating temperature	OFF → ON	Approx. 105 °C (221 °F)	—
	ON → OFF	Approx. 99 °C (210.2 °F)	—
Thermostat valve opening temperature		86.5 – 89.5 °C (187.7 – 193.1 °F)	—
Thermostat valve lift	At 100 °C (212 °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	97.2 ml (3.29 US oz, 3.42 Imp oz) or more	—
Fuel 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	—
Spark plug	Type	NGK: CPR7EA-9 / DENSO: U22EPR9	—
	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	3.4 – 4.6 Ω	—
	Secondary	19550 – 26450 Ω	—

## Starting System

Item	Specification	Standard	Limit
Starter motor brush length		10 mm (0.39 in)	6.5 mm (0.26 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		0.2 – 1.0 Ω	—
Generator no-load voltage	When engine cold At 5000 r/min	50 V (AC) or more	—
Recharging time	Standard charging	0.9 A for 5 to 10 hours	—
	Fast charging	4 A for 1 hour	—
Generator Max. output	At 5000 r/min	Approx. 400 W	—
Battery	Type designation	YTX9-BS	—
	Capacity	12 V 28.8 kC (8 Ah) / 10 HR	—

## Front Suspension

Item	Specification	Standard	Limit
Front fork inner tube O.D.		37 mm (1.5 in)	—
Front fork oil level	Without spring, inner tube fully compressed	109 mm (4.29 in)	—
Front fork spring free length		361 mm (14.2 in)	353 mm (13.9 in)
Front fork oil capacity	Each leg	366 ml (12.38 US oz, 12.88 Imp oz)	—

## Rear Suspension

Item	Specification	Standard	Limit
Rear shock absorber spring adjuster		3rd position from softest end	—
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 & Rear	—	0.25 mm (0.010 in)
Tire size	Front	110/80-17M/C 57H	—
	Rear	140/70-17M/C 66H	—
Tire type	Front	IRC / RX-01F D	—
	Rear	IRC / RX-01R	—
Tire tread depth	Recommend 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	250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)
	Dual riding	Front	250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)
		Rear	250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)
Wheel rim size	Front	17 M/C x MT 3.00	—
	Rear	17 M/C x MT 4.00	—

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

Item	Specification	Standard	Limit
Drive chain	Type	RK520KRO	—
	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		45 – 55 mm (1.8 – 2.1 in)	—
Front brake master cylinder bore / piston diameter		Approx. 11.0 mm (0.433 in)	—
Rear brake master cylinder bore / piston diameter		Approx. 15.9 mm (0.626 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. 27.0 mm (1.06 in)	—

**Rear Brakes**

Item	Specification	Standard	Limit
Rear brake disc thickness		4.5 mm (0.18 in)	4.0 mm (0.16 in)
Rear brake disc runout		—	0.30 mm (0.012 in)
Rear brake caliper cylinder bore / piston diameter	With ABS	Approx. 38.2 mm (1.50 in)	—
	Without ABS	Approx. 34.0 mm (1.34 in)	—

**ABS**

Item	Specification	Standard	Limit
Wheel speed sensor – sensor rotor clearance	Front	0.38 – 1.35 mm (0.0150 – 0.0531 in)	—
	Rear	0.63 – 1.60 mm (0.0248 – 0.0629 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. 2	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. 2	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. 2	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 turn counterclockwise	—
Drive plate thickness	No. 1	2.92 – 3.08 mm (0.115 – 0.121 in)	2.62 mm (0.104 in)
	No. 2	2.92 – 3.08 mm (0.115 – 0.121 in)	2.62 mm (0.104 in)
	No. 3	3.42 – 3.58 mm (0.135 – 0.140 in)	3.12 mm (0.123 in)
Drive plate claw width	No. 1	15.9 – 16.0 mm (0.626 – 0.629 in)	15.4 mm (0.607 in)
	No. 2	15.9 – 16.0 mm (0.626 – 0.629 in)	15.4 mm (0.607 in)
	No. 3	15.9 – 16.0 mm (0.626 – 0.629 in)	15.4 mm (0.607 in)
Driven plate distortion		—	0.10 mm (0.004 in)
Clutch spring free length		37.60 mm (1.480 in)	35.8 mm (1.41 in)

## Steering / Handlebar

Item	Specification	Standard	Limit
Steering tension initial force		2 – 5 N (0.21 – 0.50 kgf, 0.45 – 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	10 A	—	
	Main	30 A	—	
	ABS motor	25 A	—	
ABS valve	15 A	—		

## Lighting Systems

Item	Specification	Standard	Limit
Headlight		12 V 60/55 W (H4)	—
Position light		LED	—
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
Instrument panel light		LED	—
Turn signal indicator light		LED	—
Hi beam indicator light		LED	—
Neutral indicator light		LED	—
Engine coolant temperature indicator light		LED	—
Oil pressure indicator light		LED	—
MIL		LED	—
Engine RPM indicator light		LED	—
ABS indicator light		LED	—

## Tightening Torque List

### Emission Control Devices

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
PAIR reed valve cover bolt	10	1.0	7.5
PAIR control solenoid valve bracket bolt	10	1.0	7.5
PCV cover bolt	10	1.0	7.5
Canister holder screw	5.5	0.56	4.05
EVAP system purge control solenoid valve nut	6.5	0.66	4.80

### Engine Electrical Devices

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
ISC valve mounting screw	2.0	0.20	1.50
IAP sensor bolt	4.5	0.46	3.35
ECT sensor	18	1.8	13.5
TP sensor mounting screw	3.5	0.36	2.60
HO2 sensor	23	2.3	17.0

### Engine Mechanical

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Throttle cable lock-nut	4.5	0.46	3.35
Air cleaner outlet tube clamp screw	1.5	0.15	1.10
Intake pipe clamp screw	1.5	0.15	1.10
Air cleaner upper bolt	10	1.0	7.5
Air cleaner lower bolt	5.5	0.56	4.05
Intake pipe screw	8.5	0.87	6.30
Cylinder head cover bolt	10 → 14	1.0 → 1.4	7.5 → 10.5
Reservoir tank bolt	6.0	0.61	4.45
Canister bracket bolt	10	1.0	7.5
Ignition coil nut	6.5	0.66	4.80
Valve clearance adjusting screw lock-nut	10	1.0	7.5
Crankshaft hole plug	11	1.1	8.5
TDC plug	21	2.1	15.5
Camshaft sprocket bolt	15	1.5	11.0
Cam chain tension adjuster bolt	10	1.0	7.5
Cam chain tension adjuster plug	8.0	0.82	5.90
Camshaft journal holder bolt	10	1.0	7.5
Cylinder head bolt	25	2.5	18.5
Cylinder side bolt	10	1.0	7.5
Cylinder water inlet connector bolt	10	1.0	7.5
Cam chain tensioner bolt	10	1.0	7.5
Cylinder head outlet pipe bolt	10	1.0	7.5
Cylinder head oil gallery plug	10	1.0	7.5
Frame down tube bolt	50	5.1	37.0
Engine mounting bracket nut	60	6.1	44.5
Engine mounting nut	55	5.6	40.5
Water pipe mounting bolt	10	1.0	7.5
Crankcase bolt (M8)	15 → 26 N·m (1.5 → 2.7 kgf-m, 11.0 → 19.5 lbf-ft)		
Crankcase upper bolt (M8)	26	2.7	19.5
Crankcase upper bolt (M6)	11	1.1	8.5
Crankcase lower bolt (M6)	11	1.1	8.5
Crank balancer set bolt	50	5.1	37.0
Oil gallery plug (M14)	25	2.5	18.5
Oil gallery plug	25	2.5	18.5
Shift fork shaft plug	25	2.5	18.5
Conrod cap bolt	15 N·m (1.5 kgf-m, 11.0 lbf-ft) → turn clockwise 90°		



### Engine Lubrication System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Oil gallery plug (M14)	25	2.5	18.5
Oil drain plug	23	2.3	17.0
Oil filter	20	2.0	15.0
Oil pressure regulator	28	2.9	21.0
Oil strainer bolt	10	1.0	7.5
Oil pan bolt	10	1.0	7.5
Oil pressure switch	13	1.3	9.5
Oil pressure switch lead wire bolt	1.5	0.15	1.10
Transmission cooling jet	1.3	0.13	0.85
Oil pump mounting bolt	10	1.0	7.5
Oil separator plate bolt	10	1.0	0.75

### Engine Cooling System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Water hose clamp screw	3.3	0.34	2.45
Water pump air bleeder bolt	6.0	0.61	4.45
Radiator net screw	6.0	0.61	4.45
Cooling fan assembly mounting bolt	7.0	0.71	5.20
Radiator mounting bolt	10	1.0	7.5
Reservoir tank bolt	6.0	0.61	4.45
Thermostat connector cap bolt	10	1.0	7.5
Water pump bolt	10	1.0	7.5
Impeller securing bolt	8.0	0.82	5.90
Water pump case screw	5.5	0.56	4.05

### Fuel System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Fuel tank cover brace bolt	10	1.0	7.5
Fuel tank front bolt	13	1.3	9.5
Fuel tank rear bolt	10	1.0	7.5
Fuel pump mounting bolt	10	1.0	7.5
Fuel delivery pipe mounting screw	5.0	0.51	3.70

### Ignition System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Spark plug	11	1.1	8.5
Ignition coil nut	6.5	0.66	4.80
Ignition switch mounting bolt	23	2.3	17.0

### Starting System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Starter motor mounting bolt	10	1.0	7.5
Starter motor lead wire screw	2.7	0.28	2.00
Starter clutch bolt	26	2.7	19.5

## Charging System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Generator stator bolt	11	1.1	8.5
CKP sensor mounting bolt	5.5	0.56	4.05
Generator rotor bolt	130	13.3	96.0
Generator cover bolt	10	1.0	7.5
Regulator/rectifier bolt	9.0	0.92	6.65

## Exhaust System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Exhaust pipe bolt	23	2.3	17.0
Chamber support bolt	23	2.3	17.0
Exhaust pipe connector bolt	23	2.3	17.0
Muffler support bolt	23	2.3	17.0
Muffler cover screw	10	1.0	7.5

## Front Suspension

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Front fork cap bolt	23	2.3	17.0
Front fork lower clamp bolt	33	3.4	24.5
Front fork upper clamp bolt	23	2.3	17.0
Front fender upper screw	5.5	0.56	4.05
Front fender front screw	10	1.0	7.5
Front fork cylinder bolt	30	3.1	22.5

## Rear Suspension

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Rear shock absorber upper mounting nut	50	5.1	37.0
Rear shock absorber lower mounting nut	78	8.0	57.5
Brake hose guide screw	8.0	0.82	5.90
Swingarm pivot nut	65	6.6	48.0

## Wheels and Tires

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Front axle	65	6.6	48.0
Front axle pinch bolt	23	2.3	17.0
Rear axle nut	65	6.6	48.0

## Drive Chain / Drive Train / Drive Shaft

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Rear axle nut	65	6.6	48.0
Engine sprocket nut	120	12.2	88.5
Engine sprocket cover bolt	10	1.0	7.5
Rear sprocket nut	49	5.0	36.5

## Brake Control System and Diagnosis

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Rear brake master cylinder rod lock-nut	18	1.8	13.5
Front brake air bleeder valve	6.0	0.61	4.45
Rear brake air bleeder valve	6.0	0.61	4.45
Front brake master cylinder holder bolt	10	1.0	7.5
Brake hose union bolt	23	2.3	17.0
Front brake light switch screw	1.2	0.12	0.90
Brake lever pivot bolt	6.0	0.61	4.45
Brake lever pivot nut	6.0	0.61	4.45
Rear brake master cylinder mounting bolt	10	1.0	7.5

## Front Brakes

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Front brake caliper mounting bolt	26	2.7	19.5
Front brake pad mounting pin	17	1.7	12.5
Front brake pad mounting pin plug	2.5	0.25	1.85
Brake hose union bolt	23	2.3	17.0
Front brake caliper sliding pin A	22	2.2	16.5
Front brake caliper sliding pin B	12	1.2	9.0
Front brake air bleeder valve	6.0	0.61	4.45
Front brake disc bolt	35	3.6	26.0

## Rear Brakes

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Rear brake caliper mounting bolt	22	2.2	16.5
Rear brake pad mounting pin	17	1.7	12.5
Rear brake pad mounting pin plug	2.5	0.25	1.85
Brake hose union bolt	23	2.3	17.0
Rear brake caliper sliding pin	27	2.8	20.0
Rear brake air bleeder valve	6.0	0.61	4.45
Rear brake disc bolt	35	3.6	26.0

## ABS

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Front wheel speed sensor rotor bolt	6.5	0.66	4.80
Rear wheel speed sensor rotor bolt	6.5	0.66	4.80
Brake hose union bolt	23	2.3	17.0

## Manual Transmission

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Gearshift cam bearing retainer screw	10	1.0	7.5
GP switch mounting bolt	6.5	0.66	4.80
Gearshift link arm bolt	10	1.0	7.5
Gearshift arm stopper	19	1.9	14.0
Gearshift cam stopper bolt	10	1.0	7.5
Gearshift cam plate bolt	11	1.1	8.5

## Clutch

Fastening part	Tightening torque		
	N·m	kgf·m	lbf·ft
Clutch release adjuster nut	5.5	0.56	4.05
Clutch cable lock-nut	4.5	0.46	3.35
Clutch lever pivot bolt	6.5	0.66	4.80
Clutch lever pivot bolt lock-nut	6.5	0.66	4.80
Clutch lever position switch screw	0.6	0.06	0.45
Clutch lever holder bolt	10	1.0	7.5
Clutch sleeve hub nut	50	5.1	37.0
Clutch spring bolt	10	1.0	7.5
Clutch cover bolt	10	1.0	7.5
Primary drive gear nut	70	7.1	52.0

## Steering / Handlebar

Fastening part	Tightening torque		
	N·m	kgf·m	lbf·ft
Handlebar set bolt	50	5.1	37.0
Handlebar set nut	60	6.1	44.5
Handlebar balancer screw	5.5	0.56	4.05
Steering stem head nut	65	6.6	48.0
Front fork upper clamp bolt	23	2.3	17.0
Steering stem nut	23 N·m (2.3 kgf·m, 17.0 lbf·ft) → turn counterclockwise 0 – 1/4		

## Lighting Systems

Fastening part	Tightening torque		
	N·m	kgf·m	lbf·ft
Headlight screw	2.5	0.25	1.85
Wiring harness No. 2 clamp screw	3.0	0.31	2.25
Rear combination light screw	3.0	0.31	2.25
License plate light nut	6.0	0.61	4.45
Front turn signal light mounting nut	5.0	0.51	3.70
Rear turn signal light mounting nut	5.0	0.51	3.70

## Combination Meter / Fuel Meter / Horn

Fastening part	Tightening torque		
	N·m	kgf·m	lbf·ft
Combination meter screw	2.0	0.20	1.50
Horn mounting bolt	23	2.3	17.0

## Exterior Parts

Fastening part	Tightening torque		
	N·m	kgf·m	lbf·ft
Front seat mounting screw	10	1.0	7.5
Rear view mirror mounting bolt	10	1.0	7.5
Horn plate bolt	10	1.0	7.5
Water pipe mounting bolt	10	1.0	7.5
Thermostat connector bolt	10	1.0	7.5
Frame cover screw	10	1.0	7.5
Rear combination light mounting bolt	3.0	0.31	2.25

## Body Structure

Fastening part	Tightening torque		
	N·m	kgf·m	lbf·ft
Front footrest bracket mounting bolt	23	2.3	17.0

# Special Tools and Equipment

## Fuel / Oil / Fluid / Coolant Recommendation

### Fuel

#### NOTICE

Do not use leaded gasoline. If it is used, the engine and the emission control system will be damaged.

Use unleaded gasoline with an octane rating of 87 AKI or higher.

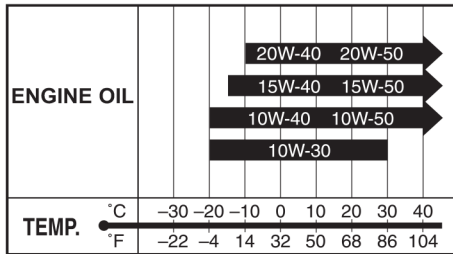
Unleaded gasoline containing up to 10% ethanol by volume may be used.

### Engine Oil

Use engine oils which meet the following requirements.

Engine oil	
API service classification	SG, SH, SJ or SL
JASO T903 standard	MA
Viscosity	SAE 10W-40

If SAE 10W-40 engine oils are not available, select oils of an appropriate viscosity grade according to the following chart.



Suzuki does not recommend the use of engine oil which have an "ENERGY CONSERVING" indication in the API service symbol for any of its motorcycles / ATVs. It can affect the engine life and the clutch performance.



Suzuki recommends the use of SUZUKI PERFORMANCE 4 MOTOR OIL.

### Brake Fluid

Specification and classification: DOT 4

#### ⚠ WARNING

Since the brake system of this motorcycle is filled with a glycol-based brake fluid by the manufacturer, do not use or mix different types of fluid such as silicone-based and petroleum-based fluid for refilling the system, otherwise serious damage will result.

Do not use any brake fluid taken from old or used or unsealed containers.

Never reuse brake fluid left over from a previous servicing, which has been stored for a long period.

### Engine Coolant

Suzuki recommends the use of SUZUKI LONG LIFE COOLANT or SUZUKI SUPER LONG LIFE COOLANT.

If SUZUKI COOLANT is not available, use an anti-freeze/engine coolant compatible with an aluminum radiator, mixed with distilled water only.

### For SUZUKI LONG LIFE COOLANT

#### NOTICE

- Use a high quality ethylene glycol base anti-freeze, mixed with distilled water. Do not mix an alcohol base anti-freeze and different brands of anti-freeze.
- Do not put in more than 60% anti-freeze or less than 50%. (Refer to Fig. 1 and 2.)

The 50:50 mixture of distilled water and ethylene glycol anti-freeze will provide the optimum corrosion protection and excellent heat protection, and will protect the cooling system from freezing at temperatures above  $-31^{\circ}\text{C}$  ( $-24^{\circ}\text{F}$ ).

If the vehicle is to be exposed to temperatures below  $-31^{\circ}\text{C}$  ( $-24^{\circ}\text{F}$ ), this mixing ratio should be increased up to 55% or 60% according to the figure.



### Anti-freeze Proportioning Chart

Anti-freeze density	Freezing point
50%	-31 °C (-24 °F)
55%	-40 °C (-40 °F)
60%	-55 °C (-67 °F)

Fig.1: Engine coolant density-freezing point curve

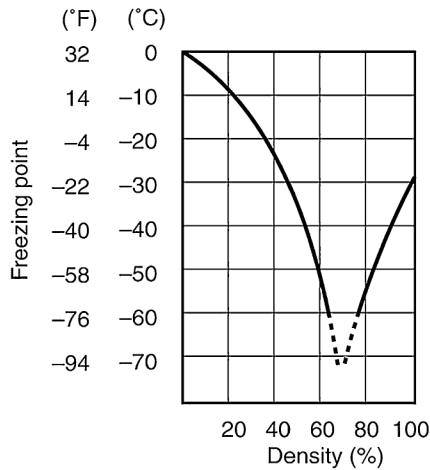
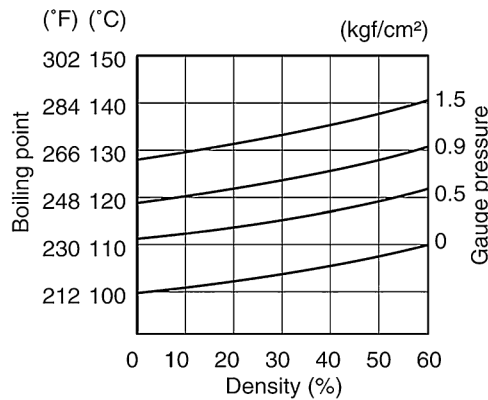


Fig.2: Engine coolant density-boiling point curve



### For SUZUKI SUPER LONG LIFE COOLANT

#### NOTICE

- Ethanol or methanol base coolant or water alone should not be used in cooling system at any time as damage to cooling system could occur.
- Do not mix the distilled water, SUZUKI LONG LIFE COOLANT (coolant color: Green) or equivalent.

SUZUKI SUPER LONG LIFE COOLANT will provide the optimum corrosion protection and excellent heat protection, and will protect the cooling system from freezing at temperatures above -36 °C (-33 °F).

#### Anti-freeze concentration table

Anti-freeze density	Freezing point
50%	-36 °C (-33 °F)

#### Water for mixing

Use distilled water only. Water other than distilled water can corrode and clog the aluminum radiator.

#### NOTICE

Mixing of anti-freeze/engine coolant should be limited to 60%. Mixing beyond it would reduce its efficiency. If the anti-freeze/engine coolant mixing ratio is below 50%, rust inhabiting performance is greatly reduced. Be sure to mix it above 50% even though the atmospheric temperature does not go down to the freezing point.

#### Anti-freeze / Engine coolant

The engine coolant perform as a corrosion and rust inhibitor as well as anti-freeze. Therefore, the engine coolant should be used at all times even though the atmospheric temperature in your area does not go down to freezing point.

Suzuki recommends the use of SUZUKI COOLANT anti-freeze/engine coolant. If this is not available, use an equivalent which is compatible with an aluminum radiator.

#### Front Fork Oil

Use SUZUKI FORK OIL G-10.