

# Features & Specifications

## 2018 GSX-S750Z



**GSX-S750ZAL8**

*YKV: Metallic Mat Black / Glass Sparkle Black*

### Key Features

- New fuel-injected, 749cc, 4-cylinder engine uses GSX-R architecture to deliver a torque-rich sportbike experience.
- Suzuki Advanced Traction Control\* lets the rider select sensitivity to match road conditions.
- The unique chassis integrates the best qualities of a tubular girder streetbike frame and a twin-spar sportbike frame, and is fitted with KYB suspension to provide precise handling.
- Supported by the Suzuki Anti-lock Brake System\*\*, the new front Nissin Monobloc brake calipers and twin, wave style brake rotors bring strong and consistent braking performance.
- Aggressive blacked-out styling, with cues from the renowned GSX-S1000, surround an ergonomically comfortable, yet sporty riding position.

### Overview

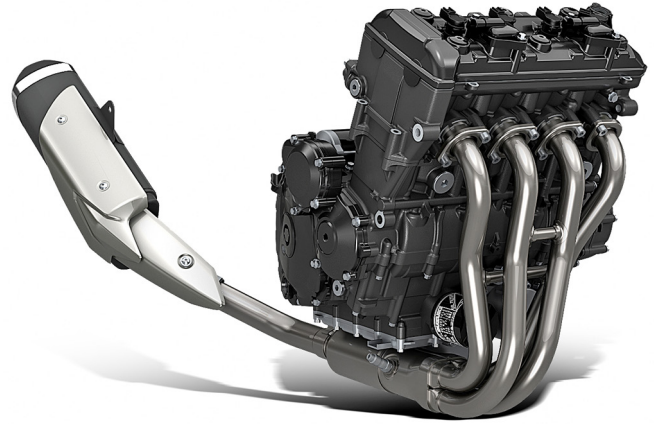
The new GSX-S750Z ABS brings significant engine and chassis advancements to firmly establish itself as the second model in Suzuki's innovative lineup of performance street machines. The GSX-S750Z ABS features fresh, aggressive styling that encompasses the appearance of quality.

As with the GSX-S1000, this new GSX-S750Z ABS inherits its heart and soul from Suzuki's MotoGP race experience and the 30-year heritage of the GSX-R750. With boosted engine power and a suite of rider-assist features, this restyled GSX-S750Z ABS is ready to capture hearts and turn heads as the new leader in its class.

This is the perfect sportbike response to the craving of today's discriminating riders, this new GSX-S750Z ABS looks better and outperforms its popular predecessor – and other entries in the class. It is nimble, comfortable, and an exhilarating, fun ride.

## Engine Features

- Potent 749cc 4-cylinder fuel-injected engine uses 2005 GSX-R750 architecture so the power delivery is an excellent blend of strong low-end and a muscular top end.
- Using the K5 generation GSX-R engine architecture also permits a shorter chassis which greatly enhances handling. This also makes the GSX-S750Z the only motorcycle in its class with an engine with SuperSport lineage.
- Ventilation holes are added to the bottom side of each cylinder in the GSX-S750Z's crankcase. The holes reduce pumping loss to help produce power and gain fuel economy.
- Camshafts tuned specifically for the GSX-S750Z deliver a dynamic wave of smooth torque and strong acceleration.
- Throttle bodies with Suzuki Dual Throttle Valve (SDTV) system contribute to better throttle response and torque at the low-to-mid RPM range, while still producing peak performance.
- New, ten-hole, long-nose fuel injectors deliver finer atomized fuel to increase combustion efficiency.
- Suzuki's patented, Throttle-body Integrated Idle Speed Control (TI-ISC) stabilizes the engine idle speed and helps lower emissions. The system is compact and lightweight.
- The TI-ISC on the GSX-S750Z has Suzuki's Low RPM Assist feature that seamlessly adjusts engine speed during take-off and low-speed riding to smooth the power delivery and to help reduce the possibility of the rider stalling the motorcycle.
- A new, larger capacity air box is required to match the higher engine output. The air inlets have been designed to provide an exciting auditory experience.
- The Engine Control Module (ECM) provides state-of-the-art engine management and has enhanced settings to suit the intake and exhaust systems, resulting in linear throttle response and class-leading fuel economy.
- Suzuki's advanced traction control system\* lets the GSX-S750Z rider 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.
- 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 fresh-design stainless-steel, 4-2-1 exhaust system helps the engine deliver a strong low-to-mid range punch with an exciting rush to redline. A larger catalyzer is in the mid-pipe to assist in emissions control without sacrificing performance.
- Angular radiator shrouds efficiently guide cooling air to the high-capacity radiator. Additional heat is removed from the engine via the use of a lightweight and compact liquid-cooled oil cooler (like those used on GSX-R models).



## Transmission Features

- The race-proven six-speed close-ratio transmission features vertically staggered shafts to reduce overall engine length.
- The shorter final gear ratio enables the new GSX-S750Z accelerate quicker than the prior model while the additional engine power maintains the same top speed potential.
- Large diameter, wet multi-plate clutch is derived from a GSX-R750 design to easily transmit power while the rack and pinion clutch release provides the rider with superb friction-point feel.
- Refined shift linkage helps the rider easily and quickly select the best gear for the riding conditions.
- The strong drive chain uses O-rings to preserve internal lubrication so power is transmitted smoothly and quietly.



## Chassis Features

- With styling influenced by the GSX-S1000, but with its own aggressive turn, the GSX-S750Z's new bodywork looks wild and forceful, yet keeps the rider comfortable at all times.
- The new headlight nacelle houses provides a visual focal point while the under cowl connects the chassis styling to the engine and new exhaust system.
- Frame design combines the advantages of a compact tubular-style street bike frame and a twin-spar sportbike frame to deliver a dynamic ride. A reasonable sport riding position is created by a carefully crafted relationship between the handlebars, footrests and seat.
- New, large-diameter, matter-black tapered handlebars damp vibration while adding style and good control leverage for the rider.
- The low seat height of 820 mm (32.2 in.) contributes to the sporty, yet upright riding position and aids rider confidence at stops.
- New, four-piston Nissin Monobloc brake calipers squeeze twin, 310mm wave style brake rotors up front with a single-piston rear caliper out back to help deliver 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.
- Inverted, gold-anodized KYB fork feature a spring preload-adjustable design which provides a solid foundation for the new, radial mount brake calipers.
- New, trapezoidal, beam-type swingarm tapers down to new chain adjusters adding strength and style.
- Link-type rear suspension, with a single shock absorber working through a progressive linkage, has 7-way adjustable spring preload.
- Newly designed, 10-spoke cast aluminum wheels from TPR hold Bridgestone Battleax Hypersport S21 radial tires that deliver increased grip and stability.
- New, black finish, aluminum hand and foot controls provide excellent action and contribute to the motorcycle's sporty style.





## Electrical Features

- This new GSX-S750Z is equipped with 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 a dual-pane, red/clear lens.
- Similar to the GSX-S1000, the new lightweight and compact instrument panel 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.
- A three-phase charging system, with an oil-cooled stator, keeps the maintenance-free battery up to charge for trouble-free operation.

## Additional Features

- A variety of Genuine Suzuki Accessories are available for the GSX-S750Z, such as a solo seat cowl and sport screen, plus a large selection of logo apparel.
- 12-month unlimited mileage, limited warranty\*
  - Coverage length can be increased and benefits added 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 drive carefully and do not overly rely on ABS.

# Specifications GSX-S750AZL8

E-03: USA, E-33: California

## Dimensions and curb mass

Item	Specification	Remark
Overall length	2125 mm (83.7 in)	—
Overall width	785 mm (30.9 in)	—
Overall height	1055 mm (41.5 in)	—
Wheelbase	1455 mm (57.3 in)	—
Ground clearance	135 mm (5.3 in)	—
Seat height	820 mm (32.3 in)	—
Curb mass	213 kg (470 lbs)	—

## Engine

Item	Specification	Remark
Type	Four-stroke, liquid-cooled, DOHC	—
Number of cylinders	4	—
Bore	72.0 mm (2.835 in)	—
Stroke	46.0 mm (1.811 in)	—
Displacement	749 cm <sup>3</sup> (45.7 cu. in)	—
Compression ratio	12.3 : 1	—
Fuel system	Fuel injection	—
Air cleaner	Paper element	—
Starter system	Electric	—
Lubrication system	Wet sump	—
Idle speed	1200 ± 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	1.857 (78/42)	—
Gear ratios	Low	2.785 (39/14)
	2nd	2.052 (39/19)
	3rd	1.681 (37/22)
	4th	1.450 (29/20)
	5th	1.304 (30/23)
	Top	1.148 (31/27)
Final reduction ratio	2.529 (43/17)	—
Drive chain	RK 525SMOZ8, 114 links	—

# Specifications GSX-S750AZL8

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	138 mm (5.4 in)	—
Steering angle	33° (right and left)	—
Caster	25° 20'	—
Trail	104 mm (4.1 in)	—
Turning radius	3.0 m (9.8 ft)	—
Front brake	Disc brake, twin	—
Rear brake	Disc brake	—
Front tire size	120/70ZR17M/C (58W), tubeless	—
Rear tire size	180/55ZR17M/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	10/10/10/15/10/15 A	—
ABS fuse	30 A	—
Headlight	12 V 60/55 W (H4)	—
Position light	12 V 5 W × 2	—
Brake light/Taillight	LED	—
Turn signal light	12 V 21 W × 4	—
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	—
Engine coolant temperature indicator light / Oil pressure indicator light	LED	—
MIL	LED	—
Traction control indicator light	LED	—
ABS indicator light	LED	—

## Capacities

Item	Specification	Remark
Fuel tank	16.0 L (4.2 US gal, 3.5 Imp gal)	—
Engine oil	Oil change	3200 ml (3.4 US qt, 2.8 Imp qt)
	With filter change	3600 ml (3.8 US qt, 3.2 Imp qt)
Engine coolant	2800 ml (3.0 US qt, 2.5 Imp qt)	—

# Service Data GSX-S750AZL8

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 – 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.	2.6 – 2.9 V	—
IAP sensor power supply voltage		4.75 – 5.25 V	—
IAP sensor output voltage	Idle speed at 1 atm.	2.6 – 2.9 V	—
IAT sensor power supply voltage		4.75 – 5.25 V	—
IAT sensor resistance	0 °C (32 °F)	5400 – 6600 Ω	—
	80 °C (176 °F)	290 – 390 Ω	—
ECT sensor power supply voltage		4.75 – 5.25 V	—
ECT sensor resistance	20 °C (68 °F)	2320 – 2590 Ω	—
	80 °C (176 °F)	310 – 326 Ω	—
TP sensor power supply voltage		4.75 – 5.25 V	—
TP sensor output voltage	Closed	1.10 – 1.14 V	—
	Opened	4.3 – 4.5 V	—
STP sensor power supply voltage		4.75 – 5.25 V	—
STP sensor output voltage	Closed	0.57 – 0.67 V	—
	Opened	4.1 – 4.3 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	—

Item	Specification	Standard	Limit
TO sensor power supply voltage		4.75 – 5.25 V	—
TO sensor output voltage	Normal	0.4 – 1.4 V	—
	Leaning 65°	3.7 – 4.4 V	—
TO sensor resistance		18000 – 21000 $\Omega$	—
ECM power supply voltage		Battery voltage	—

## Engine Mechanical

Item	Specification	Standard	Limit
Throttle body I.D. No.	Without EVAP control system	13K0	—
	With EVAP control system	13K1	—
Throttle body bore size		32 mm (1.3 in)	—
Throttle cable play		2.0 – 4.0 mm (0.079 – 0.16 in)	—
Idle speed	When engine warmed	1200 $\pm$ 100 r/min	—
Fast idle speed		1300 – 1800 r/min	—
STVA resistance		Approx. 7.8 $\Omega$	—
Compression pressure		1300 – 1700 kPa (13.3 – 17.3 kgf/cm <sup>2</sup> , 189 – 246 psi)	1000 kPa (10.2 kgf/cm <sup>2</sup> , 145 psi)
Compression pressure difference		—	200 kPa (2 kgf/cm <sup>2</sup> , 29 psi)
Cam height	Intake	36.32 – 36.37 mm (1.430 – 1.431 in)	36.02 mm (1.419 in)
	Exhaust	34.98 – 35.03 mm (1.378 – 1.379 in)	34.68 mm (1.366 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	27.2 mm (1.07 in)	—
	Exhaust	22.0 mm (0.866 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	3.975 – 3.990 mm (0.1565 – 0.1570 in)	—
	Exhaust	3.955 – 3.970 mm (0.1557 – 0.1562 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	4.000 – 4.012 mm (0.1575 – 0.1579 in)	—
	Exhaust	4.000 – 4.012 mm (0.1575 – 0.1579 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	—	37.0 mm (1.46 in)
	Exhaust	—	37.0 mm (1.46 in)



Item	Specification		Standard	Limit
Valve spring pre-load	When compressed to 32.85 mm (1.293 in)	Intake	127 – 147 N (13.0 – 14.9 kgf, 28.6 – 33.0 lbf)	—
		Exhaust	127 – 147 N (13.0 – 14.9 kgf, 28.6 – 33.0 lbf)	—
Cylinder head distortion			—	0.20 mm (0.0078 in)
Cylinder distortion			—	0.20 mm (0.0078 in)
Cylinder bore			72.000 – 72.015 mm (2.8347 – 2.8352 in)	No nicks or Scratches
Piston diameter	Measure at 15 mm (0.59 in) from the skirt end.		71.965 – 71.980 mm (2.8333 – 2.8338 in)	71.880 mm (2.8300 in)
Piston to cylinder clearance			0.030 – 0.040 mm (0.0012 – 0.0015 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		1.01 – 1.03 mm (0.0398 – 0.0405 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		0.97 – 0.99 mm (0.0382 – 0.0389 in)	—
	2nd		0.77 – 0.79 mm (0.0304 – 0.0311 in)	—
Piston ring free end gap	1st		Approx. 8.3 mm (0.33 in)	6.6 mm (0.26 in)
	2nd		Approx. 6.1 mm (0.24 in)	4.8 mm (0.19 in)
Piston ring end gap	1st		0.10 – 0.22 mm (0.0040 – 0.0086 in)	0.50 mm (0.019 in)
	2nd		0.10 – 0.22 mm (0.0040 – 0.0086 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)	—
Conrod big end I.D.			36.000 – 36.016 mm (1.4174 – 1.4179 in)	—
Conrod big end oil clearance			0.032 – 0.056 mm (0.0013 – 0.0022 in)	0.080 mm (0.0031 in)
Crank pin width			20.10 – 20.15 mm (0.7914 – 0.7933 in)	—
Crank pin O.D.			32.976 – 33.000 mm (1.2983 – 1.2992 in)	—
Crank pin bearing thickness			1.480 – 1.496 mm (0.0583 – 0.0588 in)	—
Crankshaft journal O.D.			31.976 – 32.000 mm (1.2589 – 1.2598 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.			35.000 – 35.016 mm (1.3780 – 1.3785 in)	—
Crankcase journal bearing thickness			1.488 – 1.504 mm (0.0586 – 0.0592 in)	—
Crankshaft thrust bearing thickness	Right side		2.425 – 2.450 mm (0.0955 – 0.0964 in)	—
	Left side		2.350 – 2.500 mm (0.0926 – 0.0984 in)	—
Crankshaft thrust clearance			0.055 – 0.110 mm (0.0022 – 0.0043 in)	—
Crankshaft runout			—	0.05 mm (0.0019 in)

## Engine Lubrication System

Item	Specification	Standard	Limit
Oil pressure	At 60 °C (140 °F), 3000 r/min	100 – 400 kPa (1.0 – 4.0 kgf/cm <sup>2</sup> , 14.5 – 58.0 psi)	—
Necessary amount of engine oil	Oil change	3200 ml (3.4 US qt, 2.8 Imp qt)	—
	Oil and filter change	3600 ml (3.8 US qt, 3.2 Imp qt)	—
	Engine overhaul	3900 ml (4.1 US qt, 3.4 Imp qt)	—

## Engine Cooling System

Item	Specification	Standard	Limit
Engine coolant	Engine side	Approx. 2580 ml (2.73 US qt, 2.27 Imp, qt)	—
	Reservoir tank side	Approx. 230 ml (0.24 US qt, 0.20 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. 100 °C (212 °F)	—
Thermostat valve opening temperature		80.5 – 83.5 °C (176.9 – 182.3 °F)	—
Thermostat valve lift	At 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 (7.54 US oz, 7.85 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		1-2-4-3	—
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	10 – 30 °C (50 – 86 °F)	Primary	1.1 – 1.4 Ω
		Secondary	6400 – 9600 Ω

## Starting System

Item	Specification	Standard	Limit
Starter motor brush length		11.8 – 12.3 mm (0.465 – 0.484 in)	6.5 mm (0.26 in)
Starter relay resistance		3 – 6 $\Omega$	—
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 – 15 V	—
Generator coil resistance			0.2 – 0.9 $\Omega$	—
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. 400 W	—
Battery	Type designation		FT12A-BS	—
	Capacity		12 V 36.0 kC (10 Ah) / 10 HR	—

## Front Suspension

Item	Specification	Standard	Limit
Front fork inner tube O.D.		41 mm (1.6 in)	—
Front fork oil level	Without spring, outer tube fully compressed	103 mm (4.06 in)	—
Front fork spring free length		292.8 mm (11.53 in)	286 mm (11.3 in)
Front fork oil capacity	Right leg	485 ml (16.40 US oz, 17.07 Imp oz)	—
	Left leg	491 ml (16.60 US oz, 17.28 Imp oz)	—
Front fork spring adjuster		9 mm (0.4 in)	—

## 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		120/70ZR17M/C (58W)	—
	Rear		180/55ZR17M/C (73W)	—
Tire type	Front		BRIDGESTONE / S21F G	—
	Rear		BRIDGESTONE / S21R G	—
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	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 5.50	—

## Drive Chain / Drive Train / Drive Shaft

Item	Specification	Standard	Limit
Drive chain	Type	RK 525SMOZ8	—
	Links	114 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. 14.0 mm (0.551 in)	—
Rear brake master cylinder bore / piston diameter		Approx. 14.0 mm (0.551 in)	—

## Front Brakes

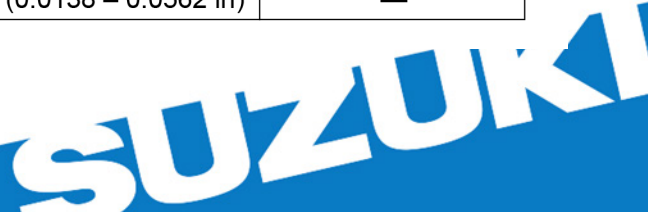
Item	Specification	Standard	Limit
Front brake disc thickness		5.0 mm (0.20 in)	4.5 mm (0.18 in)
Front brake disc runout		—	0.30 mm (0.012 in)
Front brake caliper cylinder bore / piston diameter		Approx. 34.0 mm (1.34 in), Approx. 30.2 mm (1.19 in)	—

## 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	0.35 – 1.43 mm (0.0138 – 0.0562 in)	—
	Rear	0.35 – 1.43 mm (0.0138 – 0.0562 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		4.75 – 5.25 V	—
GP switch voltage	From 1st to Top	0.6 V or more	—

## Clutch

Item	Specification	Standard	Limit
Clutch lever play		10 – 14 mm (0.40 – 0.55 in)	—
Clutch release screw		1/4 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	2.92 – 3.08 mm (0.115 – 0.121 in)	2.62 mm (0.104 in)
Drive plate claw width	No. 1	13.7 – 13.8 mm (0.540 – 0.543 in)	13.2 mm (0.520 in)
	No. 2	13.7 – 13.8 mm (0.540 – 0.543 in)	13.2 mm (0.520 in)
	No. 3	13.7 – 13.8 mm (0.540 – 0.543 in)	13.2 mm (0.520 in)
Driven plate distortion	No. 1	—	0.10 mm (0.004 in)
	No. 2	—	0.10 mm (0.004 in)
Clutch spring free length		73.47 mm (2.893 in)	69.8 mm (2.75 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		15 A
	Fuel		10 A
	Fan		15 A
	Main		30 A
	ABS		30 A

## Lighting Systems

Item	Specification	Standard	Limit
Headlight		12 V 60/55 W (H4)	—
Position light		12 V 5 W × 2	—
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 / Oil pressure indicator light		LED	—
MIL		LED	—
Traction control indicator light		LED	—
ABS indicator light		LED	—

## Tightening Torque List

### Emission Control Devices

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
PCV cover bolt	10	1.0	7.5
Solenoid valve nut	6.7	0.68	4.95
Canister bracket bolt	10	1.0	7.5

### Engine Electrical Devices

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
ISC valve mounting screw	2.0	0.20	1.50
AP sensor screw	2.5	0.25	1.85
IAP sensor screw	2.5	0.25	1.85
IAT sensor screw	1.3	0.13	0.95
ECT sensor	18	1.8	13.5
TP sensor mounting screw	3.5	0.36	2.60
HO2 sensor	25	2.5	18.5
CKP sensor screw	5.5	0.56	4.05
CKP sensor lead wire clamp screw	5.5	0.56	4.05
STP sensor mounting screw	3.5	0.36	2.60

### Engine Mechanical

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Air cleaner outlet tube clamp screw	1.5	0.15	1.10
Air cleaner bolt	5.5	0.56	4.05
Throttle cable lock-nut	4.5	0.46	3.35
Intake pipe clamp screw	1.5	0.15	1.10
Intake pipe screw	8.5	0.87	6.30
Cylinder head cover bolt	14	1.4	10.5
Crankshaft hole plug	11	1.1	8.5
Engine mounting front bolt	70	7.1	52.0
Engine mounting rear upper nut	55	5.6	40.5
Engine mounting rear lower nut	68	6.9	50.5
Camshaft journal holder bolt	10	1.0	7.5
Cam chain tension adjuster bolt	10	1.0	7.5
Cylinder head plug	23	2.3	17.0
Cylinder head bolt (L105)	31 N·m (3.2 kgf-m, 23.0 lbf-ft) → turn clockwise 60°		
Cylinder head bolt (L50)	10	1.0	7.5
Cam chain tensioner bolt	10	1.0	7.5
Cam chain guide No. 1 bolt	10	1.0	7.5
Oil gallery bolt	10	1.0	7.5
Bypass hose union	12	1.2	9.0
Conrod cap bolt	15 N·m (1.5 kgf-m, 11.0 lbf-ft) → turn clockwise 90°		
Crankcase middle bolt (M9)	18 N·m (1.8 kgf-m, 13.5 lbf-ft) → turn clockwise 50°		
Crankcase middle bolt (M6)	6.0 → 11 N·m (0.61 → 1.1 kgf-m, 4.45 → 8.5 lbf-ft)		
Crankcase upper bolt (M6)	6.0 → 11 N·m (0.61 → 1.1 kgf-m, 4.45 → 8.5 lbf-ft)		
Crankcase upper bolt (M8)	15 → 26 N·m (1.5 → 2.7 kgf-m, 11.0 → 19.5 lbf-ft)		
Crankcase middle bolt (M8)	15 → 26 N·m (1.5 → 2.7 kgf-m, 11.0 → 19.5 lbf-ft)		
Crankcase lower bolt (M6)	6.0 → 11 N·m (0.61 → 1.1 kgf-m, 4.45 → 8.5 lbf-ft)		
Water inlet connector bolt	10	1.0	7.5
Radiator bracket bolt	10	1.0	7.5
Water jacket plug	9.5	0.97	7.00
Oil gallery upper plug (M10)	18	1.8	13.5
Oil gallery plug (M16)	35	3.6	26.0

## Engine Lubrication System

Fastening part	Tightening torque		
	N-m	kgf-m	lbf-ft
Oil gallery plug (M16)	35	3.6	26.0
Oil drain plug	23	2.3	17.0
Oil filter	20	2.0	15.0
Oil gallery plug (M10)	11	1.1	8.5
Oil pressure regulator cap bolt	10	1.0	7.5
Oil strainer bolt	10	1.0	7.5
Oil pan bolt	10	1.0	7.5
Oil cooler mounting bolt	10	1.0	7.5
Oil pressure switch	13	1.3	9.5
Oil pressure switch lead wire connecting screw	1.5	0.15	1.10
Piston cooling jet bolt	10	1.0	7.5
Oil pump bolt	10	1.0	7.5

## Engine Cooling System

Fastening part	Tightening torque		
	N-m	kgf-m	lbf-ft
Water pump bolt	10	1.0	7.5
Thermostat cover air bolt	5.5	0.56	4.05
Cooling fan assembly mounting bolt	4.9	0.50	3.65
Radiator mounting bolt	9.0	0.92	6.65
Water hose clamp screw	1.5	0.15	1.10
Reservoir tank mounting bolt	6.0	0.61	4.45
Thermostat cover 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 cap bolt	3.0	0.31	2.25
Fuel tank rear bracket screw	10	1.0	7.5
Fuel tank front bolt	10	1.0	7.5
Fuel tank rear bolt	10	1.0	7.5
Fuel pump mounting bolt	10	1.0	7.5
Fuel delivery pipe mounting screw	3.5	0.36	2.60

## Ignition System

Fastening part	Tightening torque		
	N-m	kgf-m	lbf-ft
Spark plug	11	1.1	8.5

## Starting System

Fastening part	Tightening torque		
	N-m	kgf-m	lbf-ft
Starter motor bolt	10	1.0	7.5
Starter motor terminal nut	6.0	0.61	4.45
Brush holder nut	11	1.1	8.5
Starter motor bracket bolt	5.0	0.51	3.70
Starter clutch bolt	54	5.5	40.0
Starter clutch cover bolt	10	1.0	7.5
Starter idle gear cap bolt	10	1.0	7.5



## Charging System

Fastening part	Tightening torque		
	N-m	kgf-m	lbf-ft
Generator stator bolt	11	1.1	8.5
Generator lead wire clamp bolt	11	1.1	8.5
Generator rotor bolt	120	12.2	88.5
Generator cover bolt	10	1.0	7.5

## Exhaust System

Fastening part	Tightening torque		
	N-m	kgf-m	lbf-ft
Exhaust pipe bolt	23	2.3	17.0
Exhaust support bolt	23	2.3	17.0
Muffler connector bolt	18	1.8	13.5
Muffler support bolt	30	3.1	22.5
Muffler cover screw	5.5	0.56	4.05
Muffler front cover screw	5.5	0.56	4.05
Muffler center cover screw	5.5	0.56	4.05

## 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	23	2.3	17.0
Front fork upper clamp bolt	23	2.3	17.0
Front fender mounting bolt	10	1.0	7.5
Cylinder bolt	23	2.3	17.0
Front fork cylinder lock-nut	15	1.5	11.0

## 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	50	5.1	37.0
Cushion lever mounting nut	98	10.0	72.5
Cushion rod front mounting nut	78	8.0	57.5
Cushion rod rear mounting nut	78	8.0	57.5
Swingarm pivot nut	100	10.2	74.0
Chain case screw	5.5	0.56	4.05
Chain case bolt	4.5	0.46	3.35

## Wheels and Tires

Fastening part	Tightening torque		
	N-m	kgf-m	lbf-ft
Front axle nut	100	10.2	74.0
Front axle pinch bolt	23	2.3	17.0
Rear axle nut	115	11.7	85.0

## Drive Chain / Drive Train / Drive Shaft

Fastening part	Tightening torque		
	N-m	kgf-m	lbf-ft
Rear axle nut	115	11.7	85.0
Engine sprocket nut	115	11.7	85.0
Engine sprocket cover bolt	10	1.0	7.5
Rear sprocket nut	60	6.1	44.5

## 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 caliper air bleeder valve	7.5	0.76	5.55
Rear brake caliper 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
Brake hose connector screw	1.5	0.15	1.10

## Front Brakes

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Front brake pad mounting pin	17	1.7	12.5
Front brake pad pin plug	2.5	0.25	1.85
Front brake caliper mounting bolt	39	4.0	29.0
Front brake caliper housing bolt	27	2.8	20.0
Brake hose union bolt	23	2.3	17.0
Front brake air bleeder valve	7.5	0.76	5.55
Front brake disc bolt	23	2.3	17.0

## 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 pin plug	2.5	0.25	1.85
Brake hose union bolt	23	2.3	17.0
Rear brake air bleeder valve	6.0	0.61	4.45
Rear brake caliper sliding pin	27	2.8	20.0
Rear brake disc bolt	23	2.3	17.0

## 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 pipe flare nut	16	1.6	12.0

## Manual Transmission

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Gearshift arm stopper	10	1.0	7.5
GP switch bolt	6.0	0.61	4.45
Gearshift cam stopper bolt	10	1.0	7.5
Gearshift cam plate bolt	13	1.3	9.5

## Clutch

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Clutch lever pivot bolt	6.5	0.66	4.80
Clutch lever pivot nut	6.5	0.66	4.80
Clutch sleeve hub nut	150	15.3	111.0
Clutch spring set bolt	10	1.0	7.5
Clutch cover bolt	10	1.0	7.5

## Steering / Handlebar

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Handlebar clamp bolt	23	2.3	17.0
Handlebar balancer screw	5.5	0.56	4.05
Clutch lever holder bolt	10	1.0	7.5
Steering stem head nut	90	9.2	66.5
Front fork upper clamp bolt	23	2.3	17.0
Handle lower holder nut	45	4.6	33.5
Steering stem nut	20 N·m (2.0 kgf-m, 15.0 lbf-ft) → turn counterclockwise 0 – 1/4		

## Lighting Systems

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Headlight screw (M5)	2.3	0.23	1.70
Headlight screw (M6)	5.5	0.56	4.05
Rear combination light screw (M5)	3.0	0.31	2.25
License plate light screw	3.0	0.31	2.25
Rear reflex reflector nut	3.0	0.31	2.25
Front turn signal light mounting nut	1.3	0.13	0.95
Rear turn signal light mounting nut	1.3	0.13	0.95

## Combination Meter / Fuel Meter / Horn

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Combination meter screw	2.0	0.20	1.50

## Exterior Parts

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Striker support bracket nut	5.5	0.56	4.05
Fuel tank front cover bolt	10	1.0	7.5
Rear combination light screw (M6)	5.5	0.56	4.05

## Body Structure

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Front footrest bolt	23	2.3	17.0
Side-stand bolt	40	4.1	29.5
Side-stand nut	50	5.1	37.0

## 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.**

#### For U.S.A. and Canada

Use unleaded gasoline with an octane rating of 90 AKI or higher.

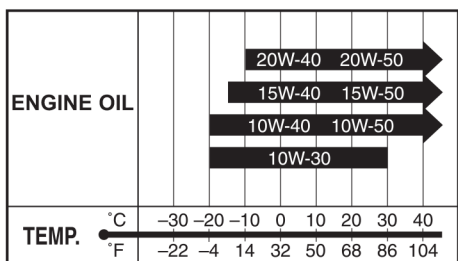
Unleaded gasoline containing up to 10% ethanol by volume may be used.

#### Engine Oil

Use engine oils which meet the following requirements.

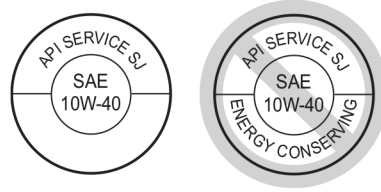
	Engine oil
API service classification	SG, SH, SJ or SL
JASO T903 standard	MA
Viscosity	SAE 10W-40

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



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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.



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#### For U.S.A. and Canada

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.

**Coolant 99000-99032-12X (SUZUKI LONG LIFE COOLANT (GREEN))**

**Coolant 99000-99032-20X (SUZUKI SUPER LONG LIFE COOLANT (BLUE))**

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.)

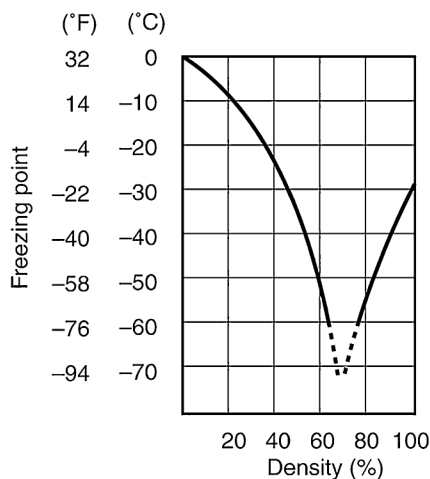
The 50:50 mixture of distilled water and ethylene glycol anti-freeze will provide the optimum corrosion protection and excellent heat protection, and will protect the cooling system from freezing at temperatures above  $-31^{\circ}\text{C}$  ( $-24^{\circ}\text{F}$ ).

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%	$-31^{\circ}\text{C}$ ( $-24^{\circ}\text{F}$ )
55%	$-40^{\circ}\text{C}$ ( $-40^{\circ}\text{F}$ )
60%	$-55^{\circ}\text{C}$ ( $-67^{\circ}\text{F}$ )

Fig.1: Engine coolant density-freezing point curve

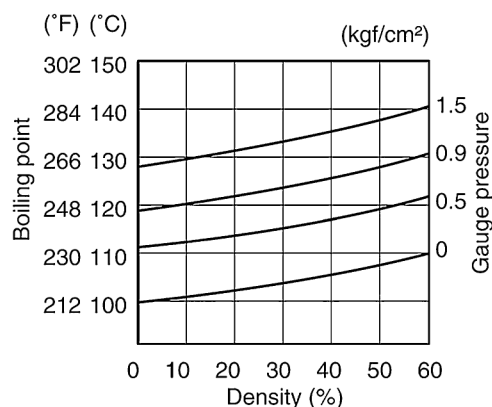


### Anti-freeze / Engine coolant

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.

Fig.2: Engine coolant density-boiling point curve



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## 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  $-36^{\circ}\text{C}$  ( $-33^{\circ}\text{F}$ ).

### Anti-freeze concentration table

Anti-freeze density	Freezing point
50%	$-36^{\circ}\text{C}$ ( $-33^{\circ}\text{F}$ )

### 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.

### Front Fork Oil

Use SUZUKI FORK OIL L-01.

Fork oil 99000-99044-L01 (SUZUKI FORK OIL L-01)