Features & Specifications
2018 SV650

SV650L8

AGQ: Metallic Triton Blue / Pearl Glacier White

Key Features

- Liquid cooled, 645cc, 4-stroke, DOHC, V-twin engine delivers inspired performance.
- Suzuki EFI system with Low RPM Assist makes take offs smooth and pleasant.
- Trellis-style frame constructed of high-strength steel tubes contributes to the motorcycle's low weight and trim chassis.
- Slim bodywork is aesthetically pleasing while aiding comfort and maneuverability.
- Dunlop Road Smart III tires help make this the best handling bike in its class.

Overview

Suzuki continues to refine this iconic motorcycle that embodies the sporty personality that only a lively, mid-sized V-twin roadster can deliver. The SV650 has a polished powerplant that provides surprising performance with low emissions and outstanding fuel economy, mated to refined trim and lightweight chassis that delivers a sporty, exciting ride. Like its predecessors, the 2018 SV650 promises to have the sparkling performance, style and value that a broad range of riders will enjoy.

Engine Features

- Class exclusive*, 645cc DOHC 90°V-twin engine produces strong, torque-rich horsepower while conforming the latest emission requirements.
- The energy efficient engine has unique pistons that were engineered with use of FEM (Finite Element Method) analysis to achieve optimal rigidity and weight.
- Each piston skirt has a special resin coating, and the other sliding part are tinned for less friction and greater durability – a first for a Suzuki motorcycle.
- Suzuki's innovative L-shaped piston rings contribute to reduce blow-by gas, resulting in less emissions and greater combustion efficiency.
- SCEM (Suzuki Composite Electrochemical Material)-plated cylinders reduce friction and improve heat transfer and durability.
- Both cylinder heads feature Suzuki's original Dual Spark Technology for greater combustion efficiency, better fuel economy and cleaner emission.
- The fuel injection system employs Suzuki's innovative, SDTV (Suzuki Dual Throttle Valve) with 39mm throttle bodies. The secondary throttle valves are controlled by servo motor for smooth power delivery and optimum combustion efficiency.
- Ten-hole; long-nosed type fuel injectors on each throttle body improves fuel atomization for better combustion efficiency and while reducing fuel consumption.

** 600- 800cc street motorcycle class.*

SV650L8

YVB: Glass Sparkle Black

Engine Features (continued)

- The EFI system employs O2 feedback and a precise intake pressure sensor for optimum combustion efficiency in various conditions, and reduces emissions to an incredibly low level.
- Suzuki's patented, Throttle-body Integrated Idle Speed Control (TI-ISC) eases starting, stabilizes the engine idle speed and helps lower emissions. The system is compact and lightweight.
- The TI-ISC on the SV650 incorporates Suzuki's Low RPM Assist feature that seamlessly adjusts engine speed during take-off and low-speed running to smooth the power delivery and to help eliminate the possibility of the rider stalling the motorcycle.
- 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 better fuel economy and linear throttle response.
- Advanced, transistorized ignition control programming helps maintain more precise spark timing to the four iridium, long-life spark plugs.
- The SV650 also features Suzuki's Easy Start system (which was first featured on the GSX-S1000) that lets the rider start the motorcycle with a momentary press of the start switch without pulling in the clutch lever when the transmission is in neutral.
- The air cleaner case design has high capacity and routes crankcase breather gas from the engine cover to help increase engine power. The air intake funnels have staggered lengths to heighten mid-range torque.
- The exhaust system has a clean, functional appearance and lower weight. The 2-into1 system has a catalyzer to further reduce emissions.
- The high-efficiency radiator employs a large cooling fan for exceptional cooling capacity. To further control temperature, the engine is also fitted with a coolant-cooled, oil cooler that is compact and lightweight.
- The close-ratio, six-speed transmission features carefully selected ratios that are equally well suited for commuting or spirited riding.
- The multi-plate clutch has precise rack & pinion actuation for a light pull and consistent release point.

Chassis Features

- The compact, lightweight chassis is covered with slim bodywork to create a bike that's agile and fun to ride on a variety of streets – such as city traffic, highway, rural roads and winding roads.
- The ready-to-ride weight of the 2018 SV650 is just 432 pounds.
- The high-strength steel, trellis-style frame is key to the motorcycle's trim and intelligent dimensions. The seat height is just 785mm (30.9 in.) and is the lowest in the 600 – 800cc street bike class.

Chassis Features (continued)

- The sleek fuel tank shape enhances the motorcycle's sporty character. So the rider has room to maneuver, the tank is short and narrow. It also aids the rider touching the ground better at stops
- The fuel tank has the same 3.8 US gallon fuel capacity in both US and California versions.
- The frame is mated to a steel, beam-type swingarm with a straightforward chain tension adjuster system.
- The 41mm conventional style front fork has a generous 125mm (4.9 in.) of wheel travel to provide a sporty, but plush ride.
- Link-type rear shock unit has 63mm (2.48 in.) stroke, and is tuned for a superb progressive feel and to react efficiently to varied road conditions while still delivering an agile and stable feel.
- The rear shock's spring pre-load is 7-way adjustable so you can easily adjust for a passenger or cargo.
- Front brakes with a pair of fully floating 290mm discs are grasped by two-piston TOKIKO calipers for strong braking performance.
- Five-spoke cast-aluminum-alloy wheels are shod with lightweight, front and rear DUNLOP radial tires for sharp handling and good mileage.
- New Dunlop ROAD SMART III tires are fitted for 2018 to help with handling and all-around tire performance.
- Fresh design, compact and lightweight instrument cluster has a full LCD display eliminating motor and needle mechanics.
- The instrument panel has several features, including a tachometer, speedometer, odometer, dual trip meter, reserve trip meter, clock, coolant temperature/oil pressure indicator, gear position, plus fuel consumption and driving range data.
- Well proportioned, tubular handlebars and mid-set foot controls create a sporting, yet ergonomically relaxed riding position.
- Tastefully designed, round shaped headlight is multi-reflector type with 12V60/55W halogen bulb.
- Bright, durable LED combination tail and brake light, plus front and rear, amber tinted turn signals.
- Attention to rider comfort and confidence includes a carefully shaped seat with a high-grip cover, and integrated cargo retention loops that can pull out from under the seat.
- The styling was conceived to express slim, lightweight design and to showcase the strength of V-twin engine. The clean, neatly shaped body lines are aimed to be appealing to a wide range of riders.
- The sleek fuel tank shape enhances the motorcycle's sporty character. Fuel tank capacity is an ample 14.5L (3.8 US gal) for both US and California specification models.
- New Blue/White color scheme is reminiscing of past Suzuki racing models while a new Black color scheme is set off by the trellis frame finished in a bright red to deliver a European sport look.

Additional Features

- Stylized Suzuki "S" 3-D emblem on the fork upper bracket denotes the quality, sophistication and performance legacy of the brand.
- A variety of Genuine Suzuki Accessories for SV owners are available including a large selection of Suzuki logo apparel.
- The 12-month unlimited-mileage, limited warranty can be lengthened via the Suzuki Extended Protection program (SEP).

Specifications SV650L8
E-03: USA, E-33: California

Dimensions and curb mass

Item	Specification	Remark
Overall length	2140 mm (84.3 in)	—
Overall width	760 mm (29.9 in)	—
Overall height	1090 mm (42.9 in)	—
Wheelbase	1445 mm (56.9 in)	—
Ground clearance	135 mm (5.3 in)	—
Seat height	785 mm (30.9 in)	—
Curb mass	196 kg (432 lbs)	—

Engine

Item	Specification	Remark
Type	Four-stroke, liquid-cooled, DOHC, 90° V-twin	—
Number of cylinders	2	—
Bore	81.0 mm (3.189 in)	—
Stroke	62.6 mm (2.465 in)	—
Displacement	645 cm^3 (39.4 cu. in)	—
Compression ratio	11.2 : 1	—
Fuel system	Fuel injection	—
Air cleaner	Non-woven fabric element	—
Starter system	Electric	—
Lubrication system	Wet sump	—
Idle speed	1300 ± 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		2.088 (71/34)	—
Gear ratios	Low	2.461 (32/13)	—
	2nd	1.777 (32/18)	—
	3rd	1.380 (29/21)	—
	4th	1.125 (27/24)	—
	5th	0.961 (25/26)	—
	Top	0.851 (23/27)	—
Final reduction ratio		3.066 (46/15)	—
Drive chain		DID520V0, 112 links	—

Chassis

Item	Specification	Remark
Front suspension	Telescopic, coil spring, oil damped	—
Rear suspension	Link type, coil spring, oil damped	—
Front fork stroke	125 mm (4.9 in)	—
Steering angle	33° (right and left)	—
Front brake	Disc brake, twin	—
Rear brake	Disc brake	—
Front tire size	120/70ZR17M/C (58W), tubeless	—
Rear tire size	160/60ZR17M/C (69W), tubeless	—

Electrical

Item	Specification	Remark
Ignition type	Electronic ignition (Transistorized)	—
Spark plug	NGK MR8E-9	—
Battery	12 V 36.0 kC (10 Ah)/10 HR	—
Generator	Three-phase A.C. generator	—
Fuse	30/10/10/15/15/10/15 A	—
Headlight	12 V 60/55 W (H4)	—
Brake light/Taillight	LED	—
Turn signal light	12 V 21 W	—
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	—

Capacities

Item		Specification	Remark
Fuel tank		14.5 L (3.8 US gal, 3.2 Imp gal)	—
Engine oil	Oil change	2400 ml (2.5 US qt, 2.1 Imp qt)	—
	With filter change	2750 ml (2.9 US qt, 2.4 Imp qt)	—
Engine coolant		1850 ml (2.0 US qt, 1.6 Imp qt)	—

NOTE:
The specification of fuel and oil are not listed below. However, their details are described after the tables.

Emission Control Devices

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

Engine Electrical Devices

Item	Specification	Standard	Limit
IAP sensor #1 power supply voltage		4.75 – 5.25 V	—
IAP sensor #1 output voltage	Idle speed at 1 atm.	Approx. 2.5 V	—
IAP sensor #2 power supply voltage		4.75 – 5.25 V	—
IAP sensor #2 output voltage	Idle speed at 1 atm.	Approx. 2.5 V	—
IAT sensor power supply voltage		4.5 – 5.5 V	—
IAT sensor resistance	0 °C (32 °F)	5400 – 6600 Ω	—
	80 °C (176 °F)	290 – 390 Ω	—
ECT sensor power supply voltage		4.5 – 5.5 V	—
ECT sensor resistance	20 °C (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	4.34 – 4.54 V	
STP sensor power supply voltage		4.5 – 5.5 V	—
STP sensor output voltage	Closed	0.57 – 0.67 V	—
	Opened	4.4 – 4.6 V	
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	4.6 V or more	—
CKP sensor resistance		148 – 222 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.	E03 without EVAP Control System		18K0	—
	E33 with EVAP		18K1	—
Throttle body bore size			39 mm (1.5 in)	—
Throttle cable play			2.0 – 4.0 mm (0.079 – 0.16 in)	—
Idle speed	When engine warmed		1300 ± 100 r/min	—
Fast idle speed			1500 – 2000 r/min	—
STVA resistance			Approx. 7 Ω	—
Compression pressure			1300 – 1700 kPa (13.3 – 17.3 kgf/cm^2, 188 – 246 psi)	1100 kPa (11.2 kgf/cm^2, 159 psi)
Compression pressure difference			—	200 kPa (2 kgf/cm^2, 28 psi)
Cam height	Intake		36.38 – 36.43 mm (1.433 – 1.434 in)	36.08 mm (1.421 in)
	Exhaust		35.68 – 35.73 mm (1.405 – 1.406 in)	35.38 mm (1.393 in)
Camshaft journal oil clearance	Intake		0.027 – 0.069 mm (0.0011 – 0.0027 in)	0.150 mm (0.0059 in)
	Exhaust		0.027 – 0.069 mm (0.0011 – 0.0027 in)	0.150 mm (0.0059 in)
Camshaft journal holder I.D.	Intake		22.007 – 22.028 mm (0.8665 – 0.8672 in)	—
	Exhaust		22.007 – 22.028 mm (0.8665 – 0.8672 in)	
Camshaft journal O.D.	Intake		21.959 – 21.980 mm (0.8646 – 0.8653 in)	—
	Exhaust		21.959 – 21.980 mm (0.8646 – 0.8653 in)	
Camshaft runout	Intake & Exhaust		—	0.10 mm (0.004 in)
Cam chain pin	At arrow “3”		16th 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		31 mm (1.2 in)	—
	Exhaust		25.5 mm (1.00 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		4.475 – 4.490 mm (0.1762 – 0.1767 in)	—
	Exhaust		4.455 – 4.470 mm (0.1754 – 0.1759 in)	—
Valve seat width	Intake		0.9 – 1.1 mm (0.036 – 0.043 in)	—
	Exhaust		0.9 – 1.1 mm (0.036 – 0.043 in)	—

Item	Specification		Standard	Limit
Valve guide I.D.	Intake		4.500 – 4.512 mm (0.1772 – 0.1776 in)	—
	Exhaust		4.500 – 4.512 mm (0.1772 – 0.1776 in)	—
Valve guide to valve stem clearance	Intake		0.010 – 0.037 mm (0.0004 – 0.0014 in)	—
	Exhaust		0.030 – 0.057 mm (0.0012 – 0.0022 in)	—
Valve spring free length	Intake		—	37.1 mm (1.46 in)
	Exhaust		—	37.1 mm (1.46 in)
Valve spring pre-load	When compressed to 33.40 mm (1.315 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			—	0.05 mm (0.0019 in)
Cylinder distortion			—	0.05 mm (0.0019 in)
Cylinder bore			81.000 – 81.015 mm (3.1890 – 3.1895 in)	No nicks or Scratches
Piston diameter	Measure at 20 mm (0.79 in) from the skirt end.		80.970 – 80.985 mm (3.1878 – 3.1883 in)	80.880 mm (3.1843 in)
Piston to cylinder clearance			0.025 – 0.035 mm (0.0010 – 0.0013 in)	0.120 mm (0.0047 in)
Piston ring to groove clearance	1st		—	0.180 mm (0.0070 in)
	2nd		—	0.150 mm (0.0059 in)
Piston ring groove width	1st		0.83 – 0.85 mm (0.0327 – 0.0334 in)	—
			1.30 – 1.32 mm (0.0512 – 0.0519 in)	—
	2nd		1.01 – 1.03 mm (0.0398 – 0.0405 in)	—
	Oil		2.01 – 2.03 mm (0.0792 – 0.0799 in)	—
Piston ring thickness	1st		0.76 – 0.81 mm (0.030 – 0.031 in)	—
			1.08 – 1.10 mm (0.0426 – 0.0433 in)	—
	2nd		0.97 – 0.99 mm (0.0382 – 0.0389 in)	—
Piston ring free end gap	1st		Approx. 6.5 mm (0.26 in)	5.2 mm (0.21 in)
	2nd		Approx. 9 mm (0.4 in)	7.2 mm (0.29 in)
Piston ring end gap	1st		0.06 – 0.18 mm (0.0024 – 0.0070 in)	0.50 mm (0.019 in)
	2nd		0.06 – 0.18 mm (0.0024 – 0.0070 in)	0.50 mm (0.019 in)
Piston pin bore I.D.			20.002 – 20.008 mm (0.7875 – 0.7877 in)	20.030 mm (0.7885 in)
Piston pin O.D.			19.996 – 20.000 mm (0.7873 – 0.7874 in)	19.980 mm (0.7867 in)
Conrod small end I.D.			20.010 – 20.018 mm (0.7878 – 0.7881 in)	20.040 mm (0.7889 in)

Item	Specification	Standard	Limit
Conrod big end side clearance		0.170 – 0.320 mm (0.0067 – 0.0125 in)	0.5 mm (0.019 in)
Conrod big end width		20.95 – 21.00 mm (0.8248 – 0.8267 in)	—
Conrod big end I.D.		41.000 – 41.016 mm (1.6142 – 1.6148 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		42.17 – 42.22 mm (1.661 – 1.662 in)	—
Crank pin O.D.		37.976 – 38.000 mm (1.4952 – 1.4960 in)	—
Crank pin bearing thickness		1.480 – 1.496 mm (0.0583 – 0.0588 in)	—
Crankshaft journal O.D.		41.985 – 42.000 mm (1.6530 – 1.6535 in)	—
Crankshaft journal oil clearance		0.004 – 0.023 mm (0.0002 – 0.0009 in)	0.080 mm (0.0031 in)
Crankcase journal I.D.		46.000 – 46.018 mm (1.8111 – 1.8117 in)	—
Crankcase journal bearing thickness		1.999 – 2.008 mm (0.0787 – 0.0790 in)	—
Crankshaft journal holder width	Right side	19.8 – 19.9 mm (0.780 – 0.783 in)	—
Crankshaft journal width	Right side	20.00 – 20.05 mm (0.7874 – 0.7893 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	200 – 600 kPa (2.1 – 6.1 kgf/cm^2, 29.0 – 87.0 psi)	—
Necessary amount of engine oil	Oil change	2400 ml (2.5 US qt, 2.1 Imp qt)	—
	Oil and filter change	2750 ml (2.9 US qt, 2.4 Imp qt)	
	Engine overhaul	3000 ml (3.2 US qt, 2.6 Imp qt)	

Cooling System

Item	Specification	Standard	Limit
Engine coolant	Engine side	Approx. 1600 ml (1.69 US qt, 1.41 Imp qt)	—
	Reserve tank side	Approx. 250 ml (0.26 US qt, 0.22 Imp qt)	
Radiator cap valve opening pressure		108.0 – 137.4 kPa (1.1 – 1.4 kgf/cm^2, 15.7 – 19.9 psi)	—
Cooling fan relay power supply voltage		Battery voltage	—
Cooling fan operating temperature	OFF → ON	Approx. 105 °C (221 °F)	—
	ON → OFF	Approx. 99 °C (210.2 °F)	
Thermostat valve opening temperature		80.5 – 83.5 °C (176.9 – 182.3 °F)	—
Thermostat valve lift	95 °C (203 °F)	8 mm (0.3 in) or more	—

Fuel System

Item	Specification	Standard	Limit
Fuel injector power supply voltage		Battery voltage	—
Fuel injector resistance	20 °C (68 °F)	11.5 – 12.5 Ω	—
FP relay power supply voltage		Battery voltage	—
FP discharge amount	Per 10 seconds	167 ml (5.65 US oz, 5.88 Imp oz) or more	—
Fuel pressure		289 – 299 kPa (2.95 – 3.04 kgf/cm^2, 42.0 – 43.3 psi)	—

Ignition System

Item	Specification	Standard	Limit
Firing order		1·2	—
Spark plug	Type	NGK: MR8E-9	—
	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		150 V or more	—
Ignition coil resistance	Primary	1 – 3 Ω	—
	Secondary	25000 – 40000 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			0.189 – 0.231 Ω	—
Generator no-load voltage	When engine cold	At 5000 r/min	60 V (AC) or more	—
Charging 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. 375 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, inner tube fully compressed	84 mm (3.3 in)	—
Front fork spring free length	Each leg	412.4 mm (16.24 in)	404 mm (15.9 in)
Front fork oil capacity	Each leg	525 ml (17.75 US oz, 18.48 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		120/70ZR17M/C (58W)	—
	Rear		160/60ZR17M/C (69W)	
Tire type	Front		DUNLOP/ROADSMART III J	—
	Rear		DUNLOP/ROADSMART III J	
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	225 kPa (2.25 kgf/cm^2, 33 psi)	—
		Rear	250 kPa (2.50 kgf/cm^2, 36 psi)	
	Dual riding	Front	225 kPa (2.25 kgf/cm^2, 33 psi)	—
		Rear	250 kPa (2.50 kgf/cm^2, 36 psi)	
Wheel rim size	Front		17 M/C × MT 3.50	—
	Rear		17 M/C × MT 5.00	

Drive Chain / Drive Train / Drive Shaft

Item	Specification	Standard	Limit
Drive chain	Type	DID520V0	—
	Links	112 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)	—
Master cylinder bore / piston diameter	Front	Approx. 14.0 mm (0.551 in)	—
	Rear	Approx. 14.0 mm (0.551 in)	

Front Brakes

Item	Specification	Standard	Limit
Front brake disc thickness		4.5 mm (0.18 in)	4.0 mm (0.16 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		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)	—

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)
	No. 3	0.1 – 0.3 mm (0.004 – 0.011 in)	0.5 mm (0.019 in)
Gearshift fork groove width	No. 1	5.5 – 5.6 mm (0.217 – 0.220 in)	—
	No. 2	5.5 – 5.6 mm (0.217 – 0.220 in)	
	No. 3	5.5 – 5.6 mm (0.217 – 0.220 in)	
Gearshift fork thickness	No. 1	5.3 – 5.4 mm (0.209 – 0.212 in)	—
	No. 2	5.3 – 5.4 mm (0.209 – 0.212 in)	
	No. 3	5.3 – 5.4 mm (0.209 – 0.212 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)
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)
Driven plate distortion		—	0.10 mm (0.004 in)
Clutch spring free length		53.1 mm (2.09 in)	50.5 mm (1.99 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		15 A	—
	Signal		15 A	—
	Fan		15 A	—
	Fuel		10 A	—
	Main		30 A	—

Lighting Systems

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

Combination Meter / Fuel Meter / Horn

Item	Specification	Standard	Limit
Speed sensor power supply voltage (Without ABS)		12 V	—
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	—

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
EVAP system purge control solenoid valve nut	7.0	0.71	5.20

Engine Electrical Devices

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
IAP sensor screw	1.3	0.13	0.95
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
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
EVAP system purge control solenoid valve bracket screw	5.0	0.51	3.70
EVAP system purge control solenoid valve nut	7.0	0.71	5.20
Intake pipe screw	8.5	0.87	6.30
Cylinder head cover bolt	14	1.4	10.5
Camshaft journal holder bolt	10	1.0	7.5
Cam chain tension adjuster bolt	10	1.0	7.5
Cam chain tension adjuster plug	23	2.3	17.0
Crankshaft hole plug	11	1.1	8.5
TDC plug	23	2.3	17.0
Cylinder head bolt (M10)	25 → 42 N·m (2.5 → 4.3 kgf-m, 18.5 → 31.0 lbf-ft)		
Cylinder head bolt (M6) (L70)	10	1.0	7.5
Cylinder head bolt (M6) (L40)	10	1.0	7.5
Cylinder nut	10	1.0	7.5
Exhaust pipe bolt	23	2.3	17.0
Connector hose union bolt	10	1.0	7.5
Oil gallery plug (M6)	10	1.0	7.5
Cam chain tensioner bolt	10	1.0	7.5
Crankcase bolt (M8) (L80)	26	2.7	19.5
Crankcase bolt (M8) (L55)	26	2.7	19.5
Crankcase bolt (M6)	11	1.1	8.5
Primary drive gear bolt	70	7.1	52.0
Special tool bolt	23	2.3	17.0
Oil gallery plug (M8)	18	1.8	13.5
Oil gallery plug (M12)	21	2.1	15.5
Drain plug	21	2.1	15.5
Oil gallery plug (M16)	35	3.6	26.0
Conrod cap bolt	21 N·m (2.1 kgf-m, 15.5 lbf-ft) → turn clockwise 90°		

Engine Lubrication System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Oil gallery plug (M12)	21	2.1	15.5
Oil drain plug	21	2.1	15.5
Oil filter	20	2.0	15.0
Oil pressure regulator	28	2.9	21.0
Oil cooler union bolt	70	7.1	52.0
Oil pressure switch	13	1.3	9.5
Oil gallery plug (M8)	18	1.8	13.5
Oil gallery plug (M6)	10	1.0	7.5
Driveshaft oil seal retainer bolt	10	1.0	7.5
Piston cooling jet bolt	10	1.0	7.5
Oil pump mounting bolt	10	1.0	7.5
Oil separator screw	10	1.0	7.5
Transmission oil guide retainer screw	8.5	0.87	6.30

Engine Cooling System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Water drain bolt	13	1.3	9.5
Radiator cap screw	1.0	0.10	0.75
Radiator under rubber bracket bolt	10	1.0	7.5
Radiator cover screw	7.5	0.76	5.55
Cooling fan assembly mounting bolt	8.5	0.87	6.30
Radiator mounting bolt	10	1.0	7.5
Thermostat connector cap bolt	10	1.0	7.5
Water pump case screw	4.5	0.46	3.35

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 nut	10	1.0	7.5
Fuel tank rear mounting bolt	10	1.0	7.5
Fuel tank front mounting 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 mounting bolt	10	1.0	7.5
Starter motor lead wire mounting nut	6.0	0.61	4.45
Starter motor set bolt	5.0	0.51	3.70
Starter clutch bolt	25	2.5	18.5

Charging System

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Generator rotor bolt	140	14.3	103.5
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
Muffler connector bolt	18	1.8	13.5
Muffler support bolt	30	3.1	22.5
Exhaust pipe connector bolt	18	1.8	13.5
Exhaust support bolt	23	2.3	17.0
Rear muffler cover screw	5.5	0.56	4.05
Muffler 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
Handlebar clamp bolt	23	2.3	17.0
Cylinder bolt	20	2.0	15.0

Rear Suspension

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Rear shock absorber lower mounting bolt	50	5.1	37.0
Cushion rod mounting nut	78	8.0	57.5
Rear shock absorber upper mounting nut	50	5.1	37.0
Cushion lever (front) mounting nut	78	8.0	57.5
Cushion lever (center) mounting nut	78	8.0	57.5
Swingarm pivot nut	100	10.2	74.0

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

Drive Chain / Drive Train / Drive Shaft

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Rear axle nut	100	10.2	74.0
Engine sprocket nut	145	14.8	107.0
Engine sprocket cover bolt	5.5	0.56	4.05
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 air bleeder valve	7.5	0.76	5.55
Front reservoir cap screw	1.5	0.15	1.10
Rear brake air bleeder valve	6.0	0.61	4.45
Rear reservoir cap screw	1.2	0.12	0.90
Front brake master cylinder holder bolt	10	1.0	7.5
Brake hose union bolt	23	2.3	17.0
Brake light switch screw	1.2	0.12	0.90
Brake lever pivot bolt	5.9	0.60	4.35
Brake lever pivot bolt lock-nut	5.9	0.60	4.35
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	39	4.0	29.0
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	18	1.8	13.5
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

Manual Transmission

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Driveshaft oil seal retainer bolt	10	1.0	7.5
GP switch mounting bolt	6.0	0.61	4.45
Gearshift arm stopper	19	1.9	14.0
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 release adjuster nut	5.0	0.51	3.70
Clutch lever pivot bolt	6.5	0.66	4.80
Clutch lever pivot nut	6.5	0.66	4.80
Clutch switch screw	1.0	0.10	0.75
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 bolt	70	7.1	52.0

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
Steering stem nut	20 N·m (2.0 kgf-m, 15.0 lbf-ft) → turn counterclockwise 0 – 1/4		
Headlight brace bolt	10	1.0	7.5

Lighting Systems

Fastening part	Tightening torque		
	N·m	kgf-m	lbf-ft
Headlight mounting screw	3.0	0.31	2.25
Headlight cover screw	10	1.0	7.5
Rear combination light bracket screw	2.0	0.20	1.50
Rear combination light screw	4.5	0.46	3.35
License plate light screw	2.0	0.20	1.50
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	1.8	0.18	1.35

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
Rear view mirror adapter	30	3.1	22.5
Rear view mirror adapter nut	18	1.8	13.5
Headlight cover bolt	10	1.0	7.5
Meter cover screw	5.5	0.56	4.05

Fuel / Oil / Fluid / Coolant Recommendation

BENJ18K10308001

Fuel

NOTICE

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

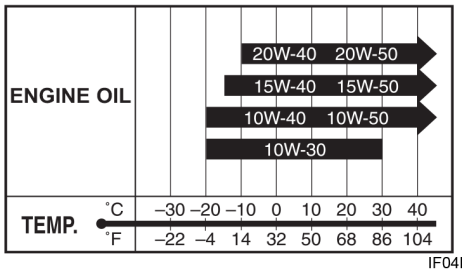
Use unleaded gasoline with an octane rating of 87 AKI or higher.
Unleaded gasoline containing up to 15% MTBE by volume may be used.
Unleaded gasoline containing up to 10% ethanol by volume may be used.
Unleaded gasoline containing up to 5% methanol by volume may be used if it contains appropriate co-solvents and corrosion inhibitors.

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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Suzuki recommends the use of ECSTAR or 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 °C (–24 °F).
If the vehicle is to be exposed to temperatures below –31 °C (–24 °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

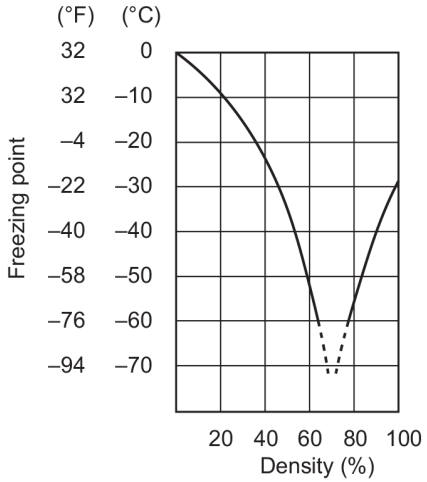

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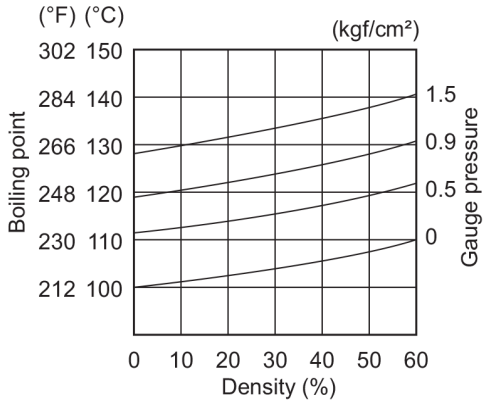
Fig.2: Engine coolant density-boiling point curve



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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 °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.
For engine coolant mixture information, refer to “Engine Coolant” (Page 0C-18).

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 SS-8.