

# Features & Specifications

## 2017 Boulevard M50



VZ800L7

YVB: Glass Sparkle Black

### Key Features

- 805cc, 4-stroke, 2-cylinder, liquid-cooled, SOHC, 45-degree V-Twin
- Muscle styling with blacked out components
- Wide, comfortable seat with a low seat height at 27.6 in.

### Engine Features

- Robust 805cc (50 cubic inch) liquid-cooled, fuel-injected V-Twin power-plant is built to deliver exciting torque from down low in the rpm range.
- Smooth black finish on the engine and air cleaner covers complements the muscular presence of the V-twin's finned cylinders.
- Crankshaft design features 45-degree offset crank pins to reduce engine vibration without a balancer shaft for a more comfortable ride.
- Electronic fuel injection system features the Suzuki Dual Throttle Valve System (SDTV) - maintains optimum air velocity in the intake tract for smooth low-to-mid rpm throttle response and high torque output.
- Multi-hole-type fuel injectors deliver a fine spray for a powerful yet fuel-efficient operation.
- An automatic Idle Speed Control (ISC) system eliminates the choke and shortens the engine's warm-up time.
- Powerful 32-bit-processor Engine Control Module (ECM) helps ensure precise control.
- Cutting-edge 3D-mapped digital ignition system using a throttle-position sensor helps boost the hallmark big V-Twin low-down torque.
- Chromed and staggered dual-exhaust system mounted on the right side of the engine are tuned for responsive torque delivery providing a deep, rumbling exhaust note.
- Suzuki Pulsed-secondary AIR-injection (PAIR) system introduces air into the exhaust ports to ignite unburned hydrocarbons and cut down on emissions.
- A wide-ratio five-speed transmission features a high fifth gear ratio for relaxed highway cruising.
- Low-maintenance shaft drive is clean-running and has minimal torque reaction as it efficiently transmits power to the wide 15-inch rear tire.

## VZ800L7

QEB: Metallic Oort Gray No. 3



### Chassis Features

- Strong, double-cradle steel frame supports a chassis ready for cruising or a full-on tour.
- Link-type rear suspension connects to a truss-style swing arm and a single shock absorber with 7-way spring preload adjustability providing 4.1 inches of smooth and response suspension travel.
- Large 300mm front brake rotor and rigid caliper bring strong braking performance to match the engine's output.
- Suzuki performance-cruiser styling is sleek and flowing throughout from the distinctive headlight cowl to the purposeful tail section.
- Low-rise handlebars mounted on pull-back risers provide a comfortable reach for the rider and increased comfort around town or on the highway
- Long, wide 4.1 US gallon fuel tank flows smoothly back to the seat -attractive raised fuel filler includes indicator lights for turn signals, high beam and low fuel.
- The shapely instrument cluster including a fuel gauge and a clock is neatly integrated with the headlight cowl.
- Cast-aluminum 16-inch front and 15-inch rear wheels, with a seamless black finish.
- Black outer tubes on the 41mm inverted front forks add sporty looks and performance feel.
- A wide and comfortable seat is shaped for a smooth visual harmony with the sporty rear fender (ideal when seat up with the optional seat cowl).
- Bright, multi-reflector headlight and a LED taillight that's performance-inspired match the tail section design.
- Bright, bullet-style turn signals are designed for high visibility and a sharp appearance.

### Additional Features

- Optional single seat cowl can replace the passenger seat for an even more aggressive look or for use on solo rides.
- Genuine Suzuki accessory options for the M50 include clean-fitting, functional saddlebags.
- More Genuine Suzuki Accessories for Boulevard owners are available including a large selection of Suzuki logo apparel.
- 12-month limited warranty
- For more details, please visit [www.suzukicycles.com](http://www.suzukicycles.com).

# Specifications VZ800L7

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

### DIMENSIONS AND CURB MASS

Overall length.....	2 395 mm (94.3 in)
Overall width.....	890 mm (35.0 in)
Overall height.....	1 105 mm (43.5 in)
Wheelbase.....	1 655 mm (65.2 in)
Ground clearance.....	140 mm (5.5 in)
Seat height.....	700 mm (27.6 in)
Curb mass.....	269 kg (593 lbs)

### ENGINE

Type.....	4-stroke, liquid-cooled, OHC, 45° V-twin
Number of cylinders.....	2
Bore.....	83.0 mm (3.268 in)
Stroke.....	74.4 mm (2.929 in)
Displacement.....	805 cm <sup>3</sup> (49.1 cu. in)
Compression ratio.....	9.4 : 1
Fuel system.....	Fuel injection
Air cleaner.....	Non-woven fabric element
Starter system.....	Electric
Lubrication system.....	Wet sump
Idle speed.....	1100 ± 100 r/min

### DRIVE TRAIN

Clutch.....	Wet multi-plate type
Transmission.....	5-speed constant mesh
Gearshift pattern.....	1-down, 4-up
Primary reduction.....	1.690 (71/42)
Secondary reduction ratio.....	1.000 (30/30)
Gear ratios, Low.....	2.461 (32/13)
2nd.....	1.631 (31/19)
3rd.....	1.227 (27/22)
4th.....	1.000 (25/25)
Top.....	0.814 (22/27)
Final reduction ratio.....	3.503 (17/15 × 34/11)
Drive system.....	Shaft Drive

# Specifications VZ800L7

E-03: USA, E-33: California

## ELECTRICAL

Ignition type .....	Electronic ignition (Transistorized)
Ignition timing.....	7° B.T.D.C. at 1100 r/min
Spark plug.....	NGK DR7EA or DENSO X22ESR-U
Battery .....	12V 36.0 kC (10 Ah)/10 HR
Generator.....	Three-phase A.C. generator
Main fuse .....	30A
Fuse.....	10/10/10/10/15/15 A
Headlight.....	12V 60/55W (H4)
Brake/Tail light .....	LED
Front turn signal/Position light.....	12V 21/5W
Rear turn signal light .....	12V 21W
License plate light .....	12V 5W
Speedometer light.....	LED
Neutral indicator light .....	LED
High beam indicator light .....	LED
Turn signal indicator light .....	LED
Coolant temperature/Oil pressure indicator light.....	LED
FI indicator light.....	LED

## CHASSIS

Front suspension .....	Inverted telescopic, coil spring, oil damped
Rear suspension .....	Link type, coil spring, oil damped
Front fork stroke.....	140 mm (5.5 in)
Rear wheel travel .....	105 mm (4.1 in)
Caster .....	33°15'
Trail.....	141 mm (5.55 in)
Steering angle.....	38° (right & left)
Turning radius .....	3.0 m (9.8 ft)
Front brake .....	Disc brake
Rear brake .....	Drum brake
Front tire .....	130/90-16M/C 67H, tubeless
Rear tire .....	170/80-15M/C 77H, tubeless

## CAPACITIES

Fuel tank, including reserve .....	15.0 L (4.0/3.3 US/Imp gal) .....	E-33
	15.5 L (4.1/3.4 US/Imp gal) .....	E-03
reserve .....	3.0 L (0.8/0.7 US/Imp gal)	
Engine oil, oil change .....	3000 ml (3.2/2.6 US/Imp qt)	
with filter change.....	3400 ml (3.6/3.0 US/Imp qt)	
overhaul.....	3700 ml (3.9/3.3 US/Imp qt)	
Final gear oil .....	200 – 220 ml (6.8/7.0 – 7.4/7.7 US/Imp oz)	
Coolant .....	1.5 L (1.6/1.3 US/Imp qt)	

# Service Data VZ800L7

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

### VALVE + GUIDE

Unit: mm (in)

ITEM	STANDARD		LIMIT
Valve diam.	IN.	30 (1.18)	—
	EX.	26 (1.02)	—
Valve clearance (when cold)	IN.	0.08 – 0.13 (0.003 – 0.005)	—
	EX.	0.17 – 0.22 (0.007 – 0.009)	—
Valve guide to valve stem clearance	IN.	0.010 – 0.037 (0.0004 – 0.0015)	—
	EX.	0.030 – 0.057 (0.0012 – 0.0022)	—
Valve guide I.D.	IN. & EX.	5.500 – 5.512 (0.2165 – 0.2170)	—
Valve stem O.D.	IN.	5.475 – 5.490 (0.2156 – 0.2161)	—
	EX.	5.455 – 5.470 (0.2148 – 0.2154)	—
Valve stem deflection	IN. & EX.	—	0.35 (0.014)
Valve stem runout	IN. & EX.	—	0.05 (0.002)
Valve head thickness	IN. & EX.	—	0.5 (0.02)
Valve stem end length	IN. & EX.	—	3.1 (0.12)
Valve seat width	IN. & EX.	0.9 – 1.1 (0.035 – 0.043)	—
Valve head radial runout	IN. & EX.	—	0.03 (0.001)
Valve spring free length	INNER	—	38.3 (1.51)
	OUTER	—	40.1 (1.58)
Valve spring tension	INNER	64 – 73 N (6.51 – 7.49 kgf, 14.35 – 16.51 lbs) at length 32.5 mm (1.28 in)	—
	OUTER	119 – 136 N (12.09 – 13.91 kgf, 26.65 – 30.67 lbs) at length 36.0 mm (1.42 in)	—

## CAMSHAFT + CYLINDER HEAD

Unit: mm (in)

ITEM	STANDARD		LIMIT
Cam height	IN.	35.50 – 35.54 (1.398 – 1.399)	35.20 (1.386)
	EX.	36.58 – 36.62 (1.440 – 1.442)	36.28 (1.428)
Camshaft journal oil clearance	0.032 – 0.066 (0.0013 – 0.0026)		0.150 (0.0059)
Camshaft journal holder I.D.	Rear left side Front right side	20.012 – 20.025 (0.7879 – 0.7884)	—
	Rear right side Front left side	25.012 – 25.025 (0.9847 – 0.9852)	—
Camshaft journal O.D.	Rear left side Front right side	19.959 – 19.980 (0.7858 – 0.7866)	—
	Rear right side Front left side	24.959 – 24.980 (0.9826 – 0.9835)	—
Camshaft runout	—		0.10 (0.004)
Rocker arm I. D.	IN. & EX.	12.000 – 12.018 (0.4724 – 0.4731)	—
Rocker arm shaft O. D.	IN. & EX.	11.977 – 11.995 (0.4715 – 0.4722)	—
Cylinder head distortion	—		0.05 (0.002)
Cylinder head cover distortion	—		0.05 (0.002)

## CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD		LIMIT
Compression pressure	1 300 – 1 700 kPa (13 – 17 kgf/cm <sup>2</sup> , 185 – 242 psi)		1 100 kPa (11 kgf/cm <sup>2</sup> 156 psi)
Compression pressure difference	—		200 kPa (2 kgf/cm <sup>2</sup> 28 psi)
Piston to cylinder clearance	0.045 – 0.055 (0.0018 – 0.0022)		0.120 (0.0047)
Cylinder bore	83.000 – 83.015 (3.2677 – 3.2683)		83.085 (3.2711)
Piston diam.	82.950 – 82.965 (3.2657 – 3.2663) Measure at 15 mm (0.6 in) from the skirt end.		82.880 (3.2630)
Cylinder distortion	—		0.05 (0.002)
Piston ring free end gap	1st	Approx. 9.6 (0.38)	7.7 (0.30)
	2nd R	Approx. 11.8 (0.46)	9.4 (0.37)
Piston ring end gap	1st	0.20 – 0.35 (0.008 – 0.014)	0.70 (0.028)
	2nd	0.20 – 0.35 (0.008 – 0.014)	0.70 (0.028)
Piston ring to groove clearance	1st	—	0.180 (0.007)
	2nd	—	0.150 (0.006)

ITEM	STANDARD		LIMIT
Piston ring groove width	1st	1.01 – 1.03 (0.0398 – 0.0406)	—
	2nd	1.21 – 1.23 (0.0476 – 0.0484)	—
	Oil	2.51 – 2.53 (0.0988 – 0.0996)	—
Piston ring thickness	1st	0.970 – 0.990 (0.0382 – 0.0390)	—
	2nd	1.170 – 1.190 (0.0461 – 0.0469)	—
Piston pin bore	20.002 – 20.008 (0.7875 – 0.7877)		20.030 (0.7886)
Piston pin O.D.	19.992 – 20.000 (0.7871 – 0.7874)		19.980 (0.7866)

## CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	20.010 – 20.018 (0.7878 – 0.7881)	20.040 (0.7890)
Conrod big end side clearance	0.10 – 0.20 (0.004 – 0.008)	0.30 (0.012)
Conrod big end width	21.95 – 22.00 (0.864 – 0.866)	—
Crank pin width	22.10 – 22.15 (0.870 – 0.872)	—
Conrod big end oil clearance	0.024 – 0.042 (0.0009 – 0.0017)	0.080 (0.0031)
Crank pin O.D.	40.982 – 41.000 (1.6135 – 1.6142)	—
Crankshaft journal oil clearance	0.002 – 0.029 (0.00008 – 0.0011)	0.080 (0.0031)
Crankshaft journal O.D.	47.965 – 47.980 (1.8884 – 1.8890)	—
Crankshaft thrust bearing thickness	1.925 – 2.175 (0.0758 – 0.0856)	—
Crankshaft thrust clearance	0.05 – 0.10 (0.002 – 0.004)	—
Crankshaft runout	—	0.05 (0.002)

## OIL PUMP

ITEM	STANDARD	LIMIT
Oil pressure (at 60 °C, 140 °F)	350 – 650 kPa (3.5 – 6.5 kgf/cm <sup>2</sup> , 50 – 92 psi) at 3 000 r/min	—

## CLUTCH

Unit: mm (in)

ITEM	STANDARD		LIMIT
Clutch lever play	10 – 15 (0.4 – 0.6)		—
Clutch release screw	1/4 turn back		—
Drive plate thickness	No. 1	2.92 – 3.08 (0.115 – 0.121)	2.62 (0.103)
	No. 2	3.42 – 3.58 (0.135 – 0.141)	3.12 (0.123)
Drive plate claw width	15.9 – 16.0 (0.626 – 0.630)		15.1 (0.594)
Driven plate distortion	—		0.10 (0.004)
Clutch spring free length	49.2 (1.94)		46.8 (1.84)

## TRANSMISSION

Unit: mm (in) Except ratio

ITEM	STANDARD		LIMIT
Primary reduction ratio	1.690 (71/42)		—
Secondary reduction ratio	1.000 (30/30)		—
Final reduction ratio	3.503 (17/15 × 34/11)		—
Gear ratios	Low	2.461 (32/13)	—
	2nd	1.631 (31/19)	—
	3rd	1.227 (27/22)	—
	4th	1.000 (25/25)	—
	Top	0.814 (22/27)	—
Shift fork to groove clearance	No. 1	0.10 – 0.30 (0.004 – 0.012)	0.50 (0.020)
	No. 2	0.10 – 0.30 (0.004 – 0.012)	0.50 (0.020)
Shift fork groove width	No. 1	5.50 – 5.60 (0.217 – 0.220)	—
	No. 2	4.50 – 4.60 (0.177 – 0.181)	—
Shift fork thickness	No. 1	5.30 – 5.40 (0.209 – 0.213)	—
	No. 2	4.30 – 4.40 (0.169 – 0.173)	—

## SHAFT DRIVE

Unit: mm (in)

ITEM	STANDARD		LIMIT
Secondary bevel gear backlash	0.05 – 0.32 (0.002 – 0.013)		—
Final bevel gear backlash	Drive side	0.03 – 0.064 (0.001 – 0.025)	—
Damper spring free length	—		58.5 (2.30)



## THERMOSTAT + RADIATOR + FAN + ENGINE COOLANT

ITEM	STANDARD/SPECIFICATION		NOTE
Thermostat valve opening temperature	Approx. 75 °C (167 °F)		—
Thermostat valve lift	Over 6 mm (0.24 in) at 90 °C (194 °F)		—
ECT sensor resistance	20 °C (68 °F)	Approx. 2.45 kΩ	—
	40 °C (104 °F)	Approx. 1.148 kΩ	—
	60 °C (140 °F)	Approx. 0.587 kΩ	—
	80 °C (176 °F)	Approx. 0.322 kΩ	—
Radiator cap valve opening pressure	95 – 125 kPa (0.95 – 1.25 kgf/cm <sup>2</sup> , 13.5 – 17.8 psi)		—
Cooling fan thermo-switch operating temperature	OFF → ON	Approx. 105 °C (221 °F)	—
	ON → OFF	Approx. 100 °C (212 °F)	—
Engine coolant type	Use an antifreeze/coolant compatible with aluminum radiator.		—
Engine coolant capacity	1 500 ml (1.6/1.3 US/lmp qt)		—

## INJECTOR + FUEL PUMP + FUEL PRESSURE REGULATOR

ITEM	SPECIFICATION	NOTE
Injector resistance	9.5 – 11.5 Ω at 20 °C (68 °F)	
Fuel pump discharge amount	Approx. 168 ml (5.7/5.9 US/lmp oz) and more/10 sec.	
Fuel pressure regulator operating set pressure	Approx. 300 kPa (3.0 kgf/cm <sup>2</sup> , 43 psi)	

## THROTTLE BODY

ITEM	SPECIFICATION
Bore size	34 mm
I.D. No.	41F3 (For E-33), 41F2 (For E-03)
Idle r/min	1 100 ± 100 r/min
Fast idle r/min	1 800 r/min (When cold engine)
Throttle cable play	2.0 – 4.0 mm (0.08 – 0.16 in)

## FI SENSORS + SECONDARY THROTTLE VALVE ACTUATOR

ITEM	SPECIFICATION		NOTE
CKP sensor resistance	184 – 276 $\Omega$		
CKP sensor peak voltage	1.5 V and more		When cranking
IAP sensor input voltage	4.5 – 5.5 V		
IAP sensor output voltage	Approx. 2.6 V at idle speed		
TP sensor input voltage	4.5 – 5.5 V		
TP sensor resistance	Closed	Approx. 1.1 k $\Omega$	
	Opened	Approx. 4.4 k $\Omega$	
TP sensor output voltage	Closed	Approx. 1.1 V	
	Opened	Approx. 4.4 V	
ECT sensor input voltage	4.5 – 5.5 V		
ECT sensor resistance	Approx. 2.45 k $\Omega$ at 20 °C (68 °F)		
IAT sensor input voltage	4.5 – 5.5 V		
IAT sensor resistance	Approx. 2.6 k $\Omega$ at 20 °C (68 °F)		
TO sensor resistance	19.1 – 19.7 k $\Omega$		
TO sensor voltage	Normal	0.4 – 1.4 V	
	Leaning	3.7 – 4.4 V	When leaning 65°
GP switch voltage	0.2 V and more		From 1st to Top
Injector voltage	Battery voltage		
STP sensor input voltage	4.5 – 5.5 V		
STP sensor resistance	Closed	Approx. 0.5 k $\Omega$	
	Opened	Approx. 3.9 k $\Omega$	
STP sensor output voltage	Closed	Approx. 0.5 V	
	Opened	Approx. 3.9 V	
STV actuator resistance	Approx. 6.5 $\Omega$		
HO2 sensor output voltage	0.3 V and less at idle speed		
	0.6 V and more at 5 000 r/min		
HO2 sensor heater resistance	6.7 – 9.5 $\Omega$ at 23 °C (73.4 °F)		
PAIR solenoid valve resistance	20 – 24 $\Omega$ at 20 – 30 °C (68 – 86 °F)		
ISC valve resistance	Approx. 80 $\Omega$ at 20 °C (68 °F)		
EVAP system purge control solenoid valve resistance	Approx. 32 $\Omega$ at 20 °C (68 °F)		

# ELECTRICAL

Unit: mm (in)

ITEM		SPECIFICATION		NOTE	
Firing order		1-2			
Spark plug		Type	NGK: DR7EA DENSO: X22ESR-U		
		Gap	0.6 – 0.7 (0.024 – 0.028)		
Spark performance		Over 8 (0.3) at 1 atm.			
CKP sensor resistance		184 – 276 Ω			
CKP sensor peak voltage		4.0 V and more			
Ignition coil resistance		Primary	2.8 – 4.7 Ω	Terminal – Terminal	
		Secondary	24 – 36 kΩ	Plug cap – Terminal	
Ignition coil primary peak voltage		200 V and more		#1 ⊕ B/BI (main) ⊕ B/R (sub) ⊖ Ground	
				#2 ⊕ B/Y (main) ⊕ W (sub) ⊖ Ground	
Generator coil resistance		0.2 – 1.5 Ω			
Generator no-load voltage (when engine is cold)		70 V (AC) and more at 5 000 r/min		Y – Y	
Regulated voltage		13.5 – 15.0 V at 5 000 r/min		Y – Y	
Generator maximum output		350 W at 5 000 r/min			
Starter relay resistance		3 – 7 Ω			
GP switch voltage		0.6 V and more (From 1st to top without neutral)			
Battery		Type designation	FTX12-BS		
		Capacity	12 V 36 kC (10 Ah)/10 HR		
Fuse size		Headlight	HI	10 A	
			LO	10 A	
		Signal		10 A	
		Ignition		15 A	
		Fuel		10 A	
		Main		30 A	
		FAN		15 A	

**WATTAGE**

Unit: W

ITEM		SPECIFICATION
		E-03, 33
Headlight	HI	60
	LO	55
Brake/Tail light		LED
Turn signal light		21/5 (Front) 21 (Rear)
Licence plate light		5
Speedometer light		LED
Engine coolant temp. warning light		LED
Turn signal indicator light		LED
High beam indicator light		LED
Neutral indicator light		LED
Oil pressure indicator light		LED
FI indicator light		LED

**BRAKE + WHEEL**

Unit: mm (in)

ITEM	STANDARD		LIMIT
Rear brake pedal free travel	20 – 30 (0.8 – 1.2)		—
Rear brake pedal height	75 – 85 (3.0 – 3.3)		—
Brake drum I.D.	Rear	—	180.7 (7.11)
Brake disc thickness	Front	4.8 – 5.2 (0.19 – 0.21)	4.5 (0.18)
Brake disc runout	—		0.30 (0.012)
Master cylinder bore	Front	12.700 – 12.743 (0.5000 – 0.5017)	—
Master cylinder piston diam.	Front	12.657 – 12.684 (0.4983 – 0.4993)	—
Brake caliper cylinder bore	Front	30.230 – 30.306 (1.1901 – 1.1931)	—
Brake caliper piston diam.	Front	30.150 – 30.200 (1.1870 – 1.1889)	—
Wheel rim runout	Axial	—	2.0 (0.08)
	Radial	—	2.0 (0.08)
Wheel axle runout	Front	—	0.25 (0.010)
	Rear	—	0.25 (0.010)
Wheel rim size	Front	J16 M/C × MT 3.00	—
	Rear	J15 M/C × MT 4.00	—

## TIRE

ITEM	STANDARD		LIMIT
Cold inflation tire pressure (Solo riding)	Front	200 kPa (2.00 kgf/cm <sup>2</sup> , 29 psi)	—
	Rear	250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)	—
Cold inflation tire pressure (Dual riding)	Front	200 kPa (2.00 kgf/cm <sup>2</sup> , 29 psi)	—
	Rear	250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)	—
Tire size	Front	130/90-16 M/C 67H	—
	Rear	170/80-15 M/C 77H	—
Tire type	Front	IRC GS-23F A	—
	Rear	IRC GS-23R A	—
Tire tread depth	Front	—	1.6 (0.06)
	Rear	—	2.0 (0.08)

## SUSPENSION

Unit: mm (in)

ITEM	STANDARD	LIMIT
Front fork stroke	140 (5.5)	—
Front fork spring free length	382.2 (15.04)	374 (14.7)
Front fork oil level (without spring)	153 (6.02)	—
Front fork oil type	SUZUKI FORK OIL L01 or an equivalent fork oil	—
Front fork oil capacity (each leg)	541 ml (18.3/19.0 US/Imp oz)	—
Front fork inner tube outside diam.	41 (1.61)	—
Rear shock absorber spring adjuster	3rd	—
Rear wheel travel	105 (4.13)	—
Swingarm pivot shaft runout	—	0.3 (0.01)

## FUEL + OIL

ITEM	SPECIFICATION		NOTE
Fuel type	Use only unleaded gasoline of at least 87 pump octane (R/2 + M/2) or 91 octane or higher rated by the research method. Gasoline containing MTBE (Methyl Tertiary Butyl Ether), less than 10% ethanol, or less than 5% methanol with appropriate cosolvents and corrosion inhibitor is permissible.		
Fuel tank capacity	Including reserve	15.0 L (4.0/3.3 US/Imp gal)	E-33
	Including reserve	15.5 L (4.1/3.4 US/Imp gal)	E-03
	Fuel level indicator light lighting	1.5 L (0.4/0.3 US/Imp gal)	
Engine oil type	SAE 10W-40, API, SF/SG or SH/SJ with JASO MA		
Engine oil capacity	Change	3 000 ml (3.2/2.6 US/Imp qt)	
	Filter change	3 400 ml (3.6/3.0 US/Imp qt)	
	Overhaul	3 700 ml (3.9/3.3 US/Imp qt)	
Final bevel gear oil type	SAE 90 hypoid gear oil with GL-5 under API classification		
Final bevel gear oil capacity	200 – 220 ml (6.8/7.0 – 7.4/7.7 US/Imp oz)		
Brake fluid type	DOT 4		

# TIGHTENING TORQUE

## ENGINE

ITEM		N·m	kgf·m	lbf·ft	
Rocker arm shaft		27	2.7	19.5	
Cylinder head cover bolt		6 mm	10	7.0	
		8 mm	25	18.0	
Cylinder head bolt and nut		8 mm	Initial	10	7.0
			Final	25	18.0
		10 mm	Initial	25	18.0
			Final	38	27.5
Cam sprocket bolt		15	1.5	11.0	
Cam chain tension adjuster mounting bolt		10	1.0	7.0	
Cam chain tensioner bolt		10	1.0	7.0	
Primary drive gear bolt		95	9.5	68.5	
Clutch spring set bolt		10	1.0	7.0	
Clutch sleeve hub nut		60	6.0	47.0	
Clutch cable adjuster lock-nut (engine side)		4.5	0.45	3.5	
Driveshaft bolt		55	5.5	40.0	
Secondary drive gear shaft nut		105	10.5	76.0	
Secondary gear case bolt		Initial	15	11.0	
		Final	22	16.0	
Generator rotor bolt		160	16.0	115.5	
Starter clutch allen bolt		26	2.6	19.0	
Crankcase bolt		6 mm		11	8.0
		8 mm	Initial	15	11.0
			Final	22	16.0
Conrod cap nut		Initial	25	18.0	
		Final	51	37.0	
Oil pressure regulator		28	2.8	20.0	
Oil pump mounting bolt		11	1.1	8.0	
Oil pressure switch		14	1.4	10.0	
Oil drain plug		21	2.1	15.0	
Rocker arm valve adjuster bolt		15	1.5	11.0	
Oil plug		6 mm	6.0	4.3	
		8 mm	18	13.0	
		10 mm	15	11.0	
		14 mm	23	16.5	
		16 mm	35	25.5	
Engine mounting bolt		79	7.9	57.0	
Engine mounting bracket bolt		23	2.3	16.5	
Frame mounting bolt/nut		8 mm	23	16.5	
		10 mm	50	36.0	
Exhaust pipe clamp bolt		23	2.3	16.5	
Muffler mounting bolt		23	2.3	16.5	
Spark plug		18	1.8	13.0	
Ignition coil bolt		4.5	0.45	3.5	

## SECONDARY AND FINAL

ITEM		N-m	kgf-m	lbf-ft
Secondary drive bevel gear bearing retainer bolt		23	2.3	16.5
Secondary driven bevel gear bolt		23	2.3	16.5
Secondary driven bevel gear bearing stopper		105	10.5	76.0
Secondary drive gear shaft nut		105	10.5	76.0
Final gear case nut		40	4.0	29.0
Final drive bevel gear coupling nut		100	10.0	72.5
Final drive bevel gear bearing stopper		110	11.0	79.5
Final gear case oil drain plug		23	2.3	16.5
Final gear case bolt	8 mm	23	2.3	16.5
	10 mm	50	5.0	36.0
Final driven bevel gear bearing retainer screw		9	0.9	6.5

## FI SYSTEM AND INTAKE AIR SYSTEM

ITEM		N-m	kgf-m	lbf-ft
CKP sensor mounting bolt		8	0.8	6.0
Fuel delivery pipe mounting screw		3.5	0.35	2.5
Fuel pump mounting bolt		10	1.0	7.0
TPS and STPS mounting screw		3.5	0.35	2.5
ISC valve mounting screw		2.1	0.21	1.5
Straight plug mounting screw		5	0.5	3.5

## COOLING SYSTEM

ITEM		N-m	kgf-m	lbf-ft
Water pump cover bolt		6	0.6	4.5
Water pump mounting screw		10	1.0	7.0
Cooling fan thermo-switch		17	1.7	12.5
ECT sensor		18	1.8	13.0



## CHASSIS

ITEM	N-m	kgf-m	lbf-ft
Front axle	65	6.5	47.0
Front axle pinch bolt	23	2.3	16.5
Brake disc bolt	23	2.3	16.5
Front fork cap bolt	23	2.3	16.5
Front fork spring stopper nut	35	3.5	25.5
Front fork damper rod bolt	23	2.3	16.5
Front fork upper clamp bolt	23	2.3	16.5
Front fork lower clamp bolt	33	3.3	24.0
Front fork inner rod lock-nut	15	1.5	11.0
Steering stem head nut	90	9.0	65.0
Steering stem nut	45	4.5	32.5
Front master cylinder mounting bolt	10	1.0	7.0
Front brake caliper mounting bolt	39	3.9	28.0
Brake hose union bolt	23	2.3	16.5
Air bleeder valve	7.5	0.75	5.5
Handlebar set bolt	23	2.3	16.5
Handlebar holder nut	45	4.5	32.5
Front footrest bracket mounting bolt	55	5.5	40.0
Frame down tube mounting bolt (M8)	23	2.3	16.5
Frame down tube mounting bolt (M10)	50	5.0	36.0
Rear brake pedal bolt	11	1.1	8.0
Rear swingarm pivot bolt (Left)	100	10.0	72.5
Rear swingarm pivot bolt (Right)	9.5	0.95	7.0
Rear swingarm pivot bolt lock-nut	100	10.0	72.5
Rear shock absorber mounting nut (Upper and Lower)	50	5.0	36.0
Rear cushion lever/rod mounting nut	78	7.8	57.5
Rear axle nut	65	6.5	47.0
Rear torque link nut (front)	35	3.5	25.5
Rear torque link nut (rear)	25	2.5	18.0
Rear brake link pivot bolt	29	2.9	21.0
Rear brake cam lever bolt	10	1.0	7.3
Driven joint stopper bolt	10	1.0	7.0
Rear frame mounting bolt	50	5.0	36.0
Rear fender brace bolt	23	2.3	16.5
License lamp mounting nut	5	0.5	3.6
Rear reflex reflector mounting nut	1.8	0.18	1.3
Fuel level gauge mounting bolt	10	1.0	7.0