



Motorcycle
2012 Model: VZR1800/ZL2
Date: April 2011

MSRP \$14,299



Glass Sparkle Black (YVB)

Key Features

1. 1783cm³, liquid-cooled, DOHC, V-Twin engine is designed to produce a massive tractable power and responsive torque.
2. Huge 112 mm (4.4 in.) forged aluminum-alloy pistons. These are one of the largest reciprocating gasoline engine pistons being used in any production passenger car or motorcycle, while featuring race-proven design to reduce friction and inertial mass.
3. Suzuki Dual Throttle Valve (SDTV) fuel injection system produces smooth throttle response even at low engine rpm.
4. Suzuki Advanced Sump System (SASS), a compact dry-sump lubrication system, designed for reduced engine height, a lower crankshaft position and lower center of gravity.
5. Inverted front forks featuring race-proven cartridge internals with 46 mm (1.8 in.) stanchion tubes.

6. Cast aluminum-alloy swingarm works with a progressive linkage and a single rear shock absorber; adjustable spring preload to suit rider and passenger weight.
7. The widest massive 240/40R18M/C 79V rear tire ever used on a SUZUKI motorcycle.
8. A sporty solo-seat cover that can be quickly swapped for the included passenger seat.
9. Instrument cluster including a digital tachometer, gear position indicator and LED indicator lights is integrated into the top of the headlight cowl.
10. Tank-mounted analog speedometer and LCD odometer, dual tripmeters, fuel gauge and clock.

Special Features only for VZR1800Z

Distinctive center-stripe painting, white lens taillight and turn signal indicator, black-colored wheels.



SPECIFICATIONS**MODEL: VZR1800L2****DIMENSIONS AND CURB MASS**

Overall length	2450 mm (96.5 in).....E-03,33
Overall width	875 mm (34.4 in)
Overall height	1130 mm (44.5 in)
Wheelbase	1710 mm (67.3 in)
Ground clearance.....	130 mm (5.1 in)
Seat height	705 mm (27.8 in)
Curb mass	347 kg (764 lbs)

ENGINE

Type	4-stroke, liquid-cooled,DOHC, 54-degree, V-twin
Number of cylinders	2
Bore	112.0 mm (4.409 in)
Stroke	90.5 mm (3.563 in)
Displacement	1783 cm ³ (108.8 cu. in)
Compression ratio	10.5 : 1
Fuel systemFuel injection
Air cleaner	Non-woven fabric element
Starter system	Electric
Lubrication system	Semi-Dry sump
Idle speed	900 ± 100 r/min

DRIVE TRAIN

Clutch	Wet multi-plate type
Transmission	5-speed constant mesh
Gearshift pattern	1-down, 4-up
Primary reduction	1.757 (58/33)E-03,28,33
Gear ratios, Low	2.187 (35/16)
2nd	1.400 (28/20)
3rd	1.038 (27/26)
4th	0.827 (24/29)
Top	0.685 (24/35)
Final reduction ratio	2.823 (18/17×32/12)
Drive system	Shaft Drive

CHASSIS

Front suspension	Inverted telescopic, coil spring, oil damped
Rear suspension	Link type, coil spring, oil damped
Front fork stroke	130 mm (5.1 in)
Rear wheel travel	118 mm (4.6 in)
Caster	31°15'
Trail	124 mm (4.88 in)
Steering angle	37° (right & left)
Turning radius	3.3 m (10.8 ft)
Front brake	Disc brake, twin
Rear brake	Disc brake
Front tire size	130/70R18M/C 63V tubeless
Rear tire size	240/40R18M/C 79V tubeless

ELECTRICAL

Ignition type	Electronic ignition (Transistorized)
Ignition timing	5° B.T.D.C. at 900 rpm
Spark plug	NGK CR8EK or DENSO U24ETR
Battery	12V 64.8 kC (18 Ah)/10 HR
Generator	Three-phase A.C. generator
Main fuse	30A
Fuse	10/10/10/15/15/15A
Headlight	12V 60/55W (H4)
Position light	12V 5W E-02,19,24,51
Brake light/Tail light	LED
Front turn signal light	12V 21/5W...E-03, 28, 33 12V 23/8W...E-03, 28, 33 (VZR1800Z)
Rear turn signal light	12V 21W
License plate light	12V 5W
Speedometer light	LED
Tachometer light	LED
High beam indicator light	LED
Turn signal indicator light	LED
Neutral indicator light	LED
Coolant temperature/Oil pressure indicator light	LED
Fuel level indicator light	LED
FI indicator light	LED

CAPACITIES

Fuel tank	18.5 L (4.9/4.1 US/Imp gal) E-33 19.5 L (5.2/4.3 US/Imp gal) Others
Engine oil , oil change	3400 ml (3.6/3.0 US/Imp qt)
with filter change	3600 ml (3.8/3.2 US/Imp qt)
overhaul	4700 ml (5.0/4.1 US/Imp qt)
Final gear oil	200 - 220 ml (6.8/7.0-7.4/7.7 US/Imp oz)
Coolant	2.7 L (2.9/2.4 US/Imp qt)

Model: VZR1800L1
VZR1800ZL1
VZR1800UF/ZUFL1

E-02, 03, 19, 24, 28, 33, 51
E-02, 03, 19, 24, 28, 33
E-19

Date: October 28, 2010

SERVICE DATA

VALVE + GUIDE

Unit: mm (in)

ITEM		STANDARD	LIMIT
Valve diam.	IN.	42 (1.65)	—
	EX.	38 (1.50)	—
Tappet clearance (when cold)	IN.	0.09 – 0.16 (0.004 – 0.006)	—
	EX.	0.20 – 0.30 (0.008 – 0.012)	—
Valve guide to valve stem clearance	IN.	0.010 – 0.037 (0.0004 – 0.0015)	—
	EX.	0.030 – 0.057 (0.0012 – 0.0022)	—
Valve guide I.D.	IN. & EX.	6.000 – 6.012 (0.2362 – 0.2367)	—
Valve stem O.D.	IN.	5.975 – 5.990 (0.2352 – 0.2358)	—
	EX.	5.955 – 5.970 (0.2344 – 0.2350)	—
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 seat width	IN.	1.1 – 1.3 (0.043 – 0.051)	—
	EX.	1.4 – 1.6 (0.055 – 0.063)	—
Valve head radial runout	IN. & EX.	—	0.03 (0.001)
Valve spring free length	IN. & EX.	—	40.7 (1.60)
Valve spring tension	IN. & EX.	127 – 147 N (13.0 – 15.0 kgf, 28.7 – 33.1 lbs) at length 36.6 mm (1.44 in)	—

CAMSHAFT + CYLINDER HEAD

Unit: mm (in)

ITEM		STANDARD	LIMIT
Cam height	IN.	40.880 – 40.930 (1.6094 – 1.6114)	40.580 (1.5976)
	EX.	40.48 – 40.53 (1.594 – 1.596)	40.18 (1.582)
Camshaft journal oil clearance	IN. & EX.	0.032 – 0.066 (0.0013 – 0.0026)	0.150 (0.0059)

ITEM	STANDARD		LIMIT
Camshaft journal holder I.D.	IN. & EX.	24.012 – 24.025 (0.9454 – 0.9459)	—
Camshaft journal O.D.	IN. & EX.	23.959 – 23.980 (0.9433 – 0.9441)	—
Camshaft runout	IN. & EX.	—	0.10 (0.004)
Cam chain pin (at arrow “3”)	18th pin		—
Cylinder head distortion	—		0.05 (0.002)

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD		LIMIT
Compression pressure (Automatic de-comp. actuated)	900 – 1 800 kPa (9.0 – 18.0 kgf/cm ² , 128 – 256 psi)		800 kPa (8.0 kgf/cm ² , 114 psi)
Compression pressure difference	—		200 kPa (2.0 kgf/cm ² , 28 psi)
Piston to cylinder clearance	0.025 – 0.040 (0.0010 – 0.0016)		0.120 (0.0047)
Cylinder bore	112.000 – 112.015 (4.4094 – 4.4100)		Nicks or Scratches
Piston diam.	111.967 – 111.983 (4.4081 – 4.4088) Measure at 10 mm (0.4 in) from the skirt end.		111.880 (4.4047)
Cylinder distortion	—		0.05 (0.002)
Piston ring free end gap	1st	Approx. 15.7 (0.62)	12.6 (0.50)
	2nd	Approx. 14.5 (0.57)	11.6 (0.46)
Piston ring end gap	1st	0.10 – 0.25 (0.004 – 0.010)	0.50 (0.020)
	2nd	0.10 – 0.25 (0.004 – 0.010)	0.50 (0.020)
Piston ring to groove clearance	1st	—	0.180 (0.0071)
	2nd	—	0.150 (0.0059)
Piston ring groove width	1st	0.93 – 0.95 (0.0366 – 0.0374)	—
		1.55 – 1.57 (0.0610 – 0.0618)	—
	2nd	1.21 – 1.23 (0.0476 – 0.0484)	—
	Oil	2.51 – 2.53 (0.0988 – 0.0996)	—
Piston ring thickness	1st	0.86 – 0.91 (0.034 – 0.036)	—
		1.38 – 1.40 (0.054 – 0.055)	—
	2nd	1.17 – 1.19 (0.046 – 0.047)	—

ITEM	STANDARD	LIMIT
Piston pin bore I.D.	23.002 – 23.008 (0.9056 – 0.9058)	23.030 (0.9067)
Piston pin O.D.	22.995 – 23.000 (0.9053 – 0.9055)	22.980 (0.9047)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	23.010 – 23.018 (0.9059 – 0.9062)	23.040 (0.9071)
Conrod big end side clearance	0.100 – 0.200 (0.0039 – 0.0078)	0.30 (0.012)
Conrod big end width	23.95 – 24.00 (0.943 – 0.945)	—
Crank pin width	24.10 – 24.15 (0.9488 – 0.9508)	—
Conrod big end oil clearance	0.032 – 0.056 (0.0013 – 0.0022)	0.080 (0.0031)
Crank pin O.D.	54.976 – 55.000 (2.1644 – 2.1654)	—
Crankshaft journal oil clearance	0.010 – 0.034 (0.0004 – 0.0013)	0.080 (0.0031)
Crankshaft journal O.D.	54.982 – 55.000 (2.1646 – 2.1654)	—
Crankshaft thrust bearing thickness	2.250 – 2.550 (0.0886 – 0.1004)	—
Crankshaft thrust clearance	0.100 – 0.200 (0.0039 – 0.0079)	—
Crankshaft runout	—	0.05 (0.002)

OIL PUMP

ITEM	STANDARD	LIMIT
Oil pressure (at 60 °C, 140 °F)	Above 400 kPa (4.0 kgf/cm ² , 57 psi) Below 700 kPa (7.0 kgf/cm ² , 100 psi) at 3 000 r/min	—

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch cable play	10 – 15 (0.4 – 0.6)	—
Clutch release screw	1 turn back	—
Drive plate thickness	No. 1	2.92 – 3.08 (0.115 – 0.121)
	No. 2	1.92 – 2.08 (0.076 – 0.082)
Driven plate thickness	No. 1	2.20 – 2.40 (0.087 – 0.094)
	No. 2	3.32 – 3.48 (0.131 – 0.137)

ITEM	STANDARD		LIMIT
Driven plate claw width	No. 1	7.85 – 7.96 (0.309 – 0.313)	7.05 (0.278)
	No. 2	7.96 – 8.15 (0.313 – 0.321)	7.16 (0.282)
Driven plate distortion	—		0.10 (0.004)
Clutch spring free length	55.11 (2.170)		52.4 (2.06)

THERMOSTAT + RADIATOR + FAN + COOLANT

ITEM	STANDARD		LIMIT
Thermostat valve opening temperature	Approx. 88 °C (190 °F)		—
Thermostat valve lift	Over 8.0 mm (0.31 in) at 100 °C (212 °F)		—
Engine coolant temperature sensor resistance	20 °C (68 °F)	Approx. 2.45 kΩ	—
	50 °C (122 °F)	Approx. 0.811 kΩ	—
	80 °C (176 °F)	Approx. 0.318 kΩ	—
	110 °C (230 °F)	Approx. 0.142 kΩ	—
Radiator cap valve opening pressure	93 – 123 kPa (0.93 – 1.23 kgf/cm ² , 13.2 – 17.5 psi)		—
Cooling fan operating temperature	OFF → ON	Approx. 105 °C (221 °F)	—
	ON → OFF	Approx. 100 °C (212 °F)	—
Engine coolant type	Use an anti-freeze/coolant compatible with aluminum radiator, mixed with distilled water only, at the ratio of 50:50.		—
Engine coolant	Reservoir tank side	Approx. 250 ml (0.3/0.2 US/Imp qt)	—
	Engine side	Approx. 2 450 ml (2.6/2.2 US/Imp qt)	—

DRIVE TRAIN

Unit: mm (in) Expect ratio

ITEM	STANDARD		LIMIT
Primary reduction ratio	E-03, 28, 33	1.757 (55/55 × 58/33)	—
	Others	1.647 (55/55 × 56/34)	—
Secondary reduction ratio	1.058 (18/17)		—
Final reduction ratio	2.666 (32/12)		—
Gear ratio	Low	2.187 (35/16)	—
	2nd	1.400 (28/20)	—
	3rd	1.038 (27/26)	—
	4th	0.827 (24/29)	—
	Top	0.685 (24/35)	—
Shift fork to groove clearance	0.1 – 0.3 (0.004 – 0.012)		0.50 (0.020)
Shift fork groove width	5.0 – 5.1 (0.197 – 0.201)		—

ITEM	STANDARD	LIMIT
Shift fork thickness	4.8 – 4.9 (0.189 – 0.193)	—
Gearshift lever height	45 – 55 (1.8 – 2.2)	—

DRIVELINE/AXLE

Unit: mm (in)

ITEM	STANDARD/SPECIFICATION	LIMIT
Secondary bevel gear backlash	0.03 – 0.15 (0.001 – 0.006)	—
Final bevel gear backlash	0.08 – 0.16 (0.003 – 0.006)	—
Damper spring free length	—	64.6 (2.54)
Final gear oil type	Hypoide gear oil SAE #90, API grade GL-5	—
Final gear oil capacity	200 – 220 ml (6.8/7.0 – 7.4/7.7 US/lmp oz)	—

INJECTOR + FUEL PUMP + FUEL PRESSURE REGULATOR

ITEM	SPECIFICATION	NOTE
Injector resistance	11 – 13 Ω at 23 °C (73 °F)	
Fuel pump discharge amount	168 ml and more (5.7/5.9 US/lmp oz) for 10 seconds at 300 kPa (3.0 kgf/cm ² , 43 psi)	
Fuel pressure regulator operating set pressure	Approx. 300 kPa (3.0 kgf/cm ² , 43 psi)	

FI-SENSORS

ITEM	SPECIFICATION		NOTE
CKP sensor resistance	190 – 290 Ω		
CKP sensor peak voltage	1.5 V and more		When cranking
IAP sensor input voltage (F & R)	4.5 – 5.5 V		
IAP sensor output voltage (F & R)	Approx. 2.6 V at idle speed		
TP sensor input voltage	4.5 – 5.5 V		
TP sensor resistance	Closed	Approx. 1.1 k Ω	
	Opened	Approx. 4.3 k Ω	
TP sensor output voltage	Closed	Approx. 1.1 V	
	Opened	Approx. 4.3 V	
ECT sensor input voltage	4.5 – 5.5 V		
ECT sensor output voltage	0.15 – 4.84 V		
ECT sensor resistance	Approx. 2.45 k Ω at 20 °C (68 °F)		
IAT sensor input voltage	4.5 – 5.5 V		
IAT sensor output voltage	0.15 – 4.84 V		
IAT sensor resistance	Approx. 2.45 k Ω at 20 °C (68 °F)		
TO sensor resistance	16.5 – 22.3 k Ω		
TO sensor voltage	Normal	0.4 – 1.4 V	
	Leaning	3.7 – 4.4 V	When leaning 65°
GP switch voltage	0.6 V and more		From 1st to top

ITEM	SPECIFICATION		NOTE
Injector voltage	Battery voltage		
Ignition coil primary peak voltage	250 V and more		When cranking
Ignition coil/Plug cap primary peak voltage	80 V and more		When cranking
STP sensor input voltage	4.5 – 5.5 V		
STP sensor resistance	Closed	Approx. 0.6 k Ω	
	Opened	Approx. 4.2 k Ω	
STP sensor output voltage	Closed	Approx. 0.6 V	
	Opened	Approx. 4.2 V	
STV actuator resistance	Approx. 7 Ω		
EXCVA position sensor input voltage	4.5 – 5.5 V		
EXCVA position sensor resistance	Approx. 3.1 k Ω		At adjustment position
EXCVA position sensor output voltage	Closed	0.5 – 1.5 V	
	Opened	3.5 – 4.5 V	
Oxygen sensor output voltage	0.4 V and less at idle speed		E-02, 19, 24, 51
	0.6 V and more at 3 000 r/min		E-02, 19, 24, 51
Oxygen sensor resistance	4.0 – 5.5 Ω at 23 °C (73.4 °F)		E-02, 19, 24, 51
PAIR solenoid valve resistance	18 – 22 Ω at 20 – 30 °C (68 – 86 °F)		

THROTTLE BODY

ITEM	SPECIFICATION
I.D. No.	48G3 (For E-33), 48G2 (Others)
Bore size	56 mm
Idle r/min	900 \pm 100 r/min/Warmed engine
Throttle cable play	2.0 – 4.0 mm (0.08 – 0.16 in)

ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION		NOTE
Firing order	1-2		
Spark plug	Type	NGK: CR8EK DENSO: U24ETR	
	Gap	0.6 – 0.7 (0.024 – 0.028)	
Spark performance	Over 8 (0.3) at 1 atm.		
CKP sensor resistance	190 – 290 Ω		BI – G
Ignition coil resistance	Primary	1.8 – 3.0 Ω	⊕ tap – ⊖ tap
	Secondary	16 – 26 k Ω	⊖ tap – Plug cap
Ignition coil/Plug cap resistance	Primary	1.1 – 1.9 Ω	⊕ tap – ⊖ tap
	Secondary	10.8 – 16.2 k Ω	Plug cap – ⊖ tap
CKP sensor peak voltage	1.5 V and more		⊕ BI ⊖ G

ITEM		SPECIFICATION		NOTE
Ignition coil primary peak voltage		250 V and more		Front ⊕: G ⊖: Ground Rear ⊕: Y ⊖: Ground
Ignition coil/Plug cap primary peak voltage		80 V and more		Front ⊕: B ⊖: Ground Rear ⊕: W/BI ⊖: Ground
Generator coil resistance		0.2 – 1.5 Ω		B – B
Generator Max. output		Approx. 400 W at 5 000 r/min		
Generator no-load voltage (When engine is cold)		70 V (AC) and more at 5 000 r/min		
Regulated voltage		14.0 – 15.5 V at 5 000 r/min		
Starter relay resistance		3 – 6 Ω		
Battery	Type designation	FTZ16-BS		
	Capacity	12 V 64.8 kC (18 Ah)/10 HR		
Fuse size	Headlight	HI	10 A	
		LO	10 A	
	Fuel		10 A	
	Ignition		15 A	
	Turn signal		15 A	
	Fan motor		15 A	
	Main		30 A	
Starter motor brush length		Standard	12.5 (0.49)	
		Limit	6.0 (0.24)	

WATTAGE

Unit: W

ITEM		SPECIFICATION	
		E-03, 28, 33	E-02, 19, 24, 51
Headlight	HI	60	←
	LO	55	←
Position light			5
Brake light/Tail light		LED	←
Front turn signal light/Position light		21/5 (VZR1800) 23/8 (VZR1800Z)	
Front turn signal light			21
Rear turn signal light		21	←
Speedometer		LED	←
Tachometer		LED	←
Turn signal indicator light		LED	←
High beam indicator light		LED	←
Neutral indicator light		LED	←
Fuel level indicator light		LED	←
Coolant temperature/Oil pressure indicator light		LED	←
FI indicator light		LED	←
License light		5	←

BRAKE + WHEEL

Unit: mm (in)

ITEM		STANDARD		LIMIT
Rear brake pedal height		15 – 25 (0.6 – 1.0)		—
Brake disc thickness		Front	5.0 ± 0.2 (0.197 ± 0.008)	4.5 (0.18)
		Rear	7 ⁰ _{-0.4} (0.276 ⁰ _{-0.016})	6.3 (0.25)
Brake disc runout (Front & Rear)		—		0.30 (0.012)
Master cylinder bore		Front	15.870 – 15.913 (0.6248 – 0.6265)	—
		Rear	14.000 – 14.043 (0.5512 – 0.5529)	—
Master cylinder piston diam.		Front	15.827 – 15.854 (0.6231 – 0.6242)	—
		Rear	13.957 – 13.984 (0.5495 – 0.5506)	—
Brake caliper cylinder bore	Leading	Front	30.280 – 30.356 (1.1921 – 1.1951)	—
	Trailing		34.010 – 34.086 (1.3390 – 1.3420)	—
	Leading & Trailing	Rear	30.230 – 30.306 (1.1902 – 1.1931)	—
Brake caliper piston diam.	Leading	Front	30.150 – 30.200 (1.1870 – 1.1890)	—
	Trailing		33.884 – 33.934 (1.3340 – 1.3360)	—
	Leading & Trailing	Rear	30.150 – 30.200 (1.1870 – 1.1890)	—
Brake fluid type		DOT 4		—
Wheel rim runout (Front & Rear)		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	18M/C × MT 3.50	—
		Rear	18M/C × MT 8.50	—
Tire size		Front	130/70R18M/C 63V, tubeless	—
		Rear	240/40R18M/C 79V, tubeless	—
Tire type		Front	DUNLOP: D221FA	—
		Rear	DUNLOP: D221	—
Tire tread depth		Front	—	1.6 (0.06)
		Rear	—	2.0 (0.08)

SUSPENSION

Unit: mm (in)

ITEM	STANDARD	LIMIT
Front fork stroke	130 (5.1)	—
Front fork spring free length	390 (15.4)	382 (15.0)
Front fork inner tube O.D.	46 (1.8)	—
Front fork oil level (without spring, inner tube fully compressed)	115 (4.5)	—
Front fork oil type	SUZUKI FORK OIL L01 or an equivalent fork oil	—
Front fork oil capacity (each leg)	718 ml (24.3/25.3 US/Imp oz)	—
Rear shock absorber spring adjuster	4/7	—
Rear wheel travel	118 (4.6)	—
Swingarm pivot shaft runout	—	0.3 (0.01)

TIRE PRESSURE

COLD INFLATION TIRE PRESSURE	SOLO RIDING			DUAL RIDING		
	kPa	kgf/cm ²	psi	kPa	kgf/cm ²	psi
FRONT	250	2.50	36	250	2.50	36
REAR	290	2.90	42	290	2.90	42

FUEL + OIL

ITEM	SPECIFICATION	NOTE
Fuel type	Use only unleaded gasoline of at least 90 pump octane (R/2 + M/2). Gasoline containing MTBE (Methyl Tertiary Butyl Ether), less than 10% ethanol, or less than 5% methanol with appropriate cosolvents and corrosion inhibitor is permissible.	E-03, 28, 33
	Gasoline used should be graded 95 octane or higher. An unleaded gasoline is recommended.	The others
Fuel tank capacity	18.5 L (4.9/4.1 US/Imp gal)	E-33
	19.5 L (5.2/4.3 US/Imp gal)	The others
Engine oil type	SAE 10W-40, API SF/SG or SH/SJ with JASO MA	
Engine oil capacity	Change	3 400 ml (3.6/3.0 US/Imp qt)
	Filter change	3 600 ml (3.8/3.2 US/Imp qt)
	Overhaul	4 700 ml (5.0/4.1 US/Imp qt)

TIGHTENING TORQUE

ENGINE

ITEM		N-m	kgf-m	lbf-ft	
Cylinder head cover bolt		11	1.1	8.0	
Cylinder head cover cap bracket bolt		11	1.1	8.0	
Cylinder head bolt	M: 6	11	1.1	8.0	
	M: 8	26	2.6	19.0	
	M: 10	Initial	25	2.5	18.0
		Final	42	4.2	30.5
Cylinder nut		13	1.3	9.5	
Cylinder head plug (Water jacket plug)		26	2.6	19.0	
Camshaft housing bolt		11	1.1	8.0	
Sprocket cam chain drive bolt		85	8.5	61.5	
Cam chain tension No.1 adjuster bolt		10	1.0	7.0	
Cam chain tension No.2 adjuster bolt		10	1.0	7.0	
Cam chain tension adjuster cap bolt		23	2.3	16.5	
Cam chain tensioner bolt (No.1 & No.2)		18	1.8	13.0	
Cam chain tensioner No.2 nut		10	1.0	7.0	
Cam chain guide No.1 bolt		18	1.8	13.0	
Exhaust pipe bolt		23	2.3	16.5	
Muffler mounting bolt and nut		23	2.3	16.5	
Oxygen sensor (For E-02, 19, 24)	#1 & #2	48	4.8	34.5	
Spark plug		11	1.1	8.0	
Primary driven gear bolt		95	9.5	68.5	
Starter clutch bolt		25	2.5	18.0	
Crank balancer drive gear bolt		24	2.4	17.5	
Crank balancer driven gear bolt	M: 6	10	1.0	7.0	
	M: 8	25	2.5	18.0	
Conrod bearing cap bolt	Initial	35	3.5	25.5	
	Final	After tightening to the above torque, tighten 1/4 of a turn (90°)			
Oil drain plug		23	2.3	16.5	
Crankcase bolt	M: 6	11	1.1	8.0	
	M: 8	26	2.6	19.0	
	M: 10	Initial	30	3.0	21.5
		Final	50	5.0	36.0
Oil gallery plug	M: 6	10	1.0	7.0	
	M: 10	16	1.6	11.5	
	M: 12	21	2.1	15.0	
	M: 14	25	2.5	18.0	
	M: 16	35	3.5	25.5	
Oil cooler union bolt		70	7.0	50.5	
Oil pressure switch		14	1.4	10.0	
Oil pressure switch lead wire screw		1.5	0.15	1.0	
Clutch sleeve hub nut		95	9.5	68.5	

ITEM	N·m	kgf-m	lbf-ft
Gearshift cam stopper plate bolt	13	1.3	9.5
Gearshift arm stopper bolt	19	1.9	13.5
Gearshift cam stopper bolt	10	1.0	7.0
Gearshift lever shaft	50	5.0	36.0
Gearshift fork shaft retainer plug	35	3.5	25.5
Generator cover plug	16	1.6	11.5
Generator rotor bolt	160	16.0	115.5
Generator stator bolt	11	1.1	8.0
Starter motor bolt	6	0.6	4.5
Starter motor lead wire nut	6	0.6	4.5
Generator lead wire clamp bolt	11	1.1	8.0
Gear position switch bolt	6.5	0.65	4.5
Speed sensor bolt	10	1.0	7.0
Engine oil drain plug	23	2.3	16.5
Oil filter	20	2.0	14.5
Engine mounting bracket bolt (Rear)	23	2.3	16.5
Engine mounting nut	55	5.5	40.0

DRIVELINE/AXLE

ITEM	N·m	kgf-m	lbf-ft
Secondary drive gear bolt	160	16.0	115.5
Secondary driven bearing stopper	105	10.5	76.0
Secondary driven gear coupling nut	95	9.5	68.5
Secondary driven gear case bolt	26	2.6	19.0
Secondary driven gear bearing housing bolt	28	2.8	20.0
Final gear case nut	40	4.0	29.0
Final drive gear coupling nut	100	10.0	72.5
Final drive bearing stopper	110	11.0	79.5
Final driven gear bearing case bolt	M: 8	23	16.5
	M: 10	50	36.0
Final gear case oil drain plug	23	2.3	16.5

FI SYSTEM AND INTAKE AIR SYSTEM

ITEM	N·m	kgf-m	lbf-ft
CKP sensor mounting bolt	6.5	0.65	4.5
Fuel pump mounting bolt	10	1.0	7.0
TPS and STPS mounting screw	3.5	0.35	2.5
Fuel delivery pipe mounting screw	5	0.5	3.5
EXCVA pulley mounting bolt	5	0.5	3.5

COOLING SYSTEM

ITEM	N·m	kgf-m	lbf-ft
Impeller securing bolt	8	0.8	6.0
Water pump mounting bolt	10	1.0	7.0
ECT sensor	18	1.8	13.0

CHASSIS

ITEM	N·m	kgf-m	lbf-ft
Handlebar clamp bolt	23	2.3	16.5
Handlebar holder bolt	85	8.5	61.5
Handlebar bracket bolt	23	2.3	16.5
Front fork upper and lower clamp bolt	23	2.3	16.5
Front fork cap bolt	23	2.3	16.5
Front fork damper rod bolt	40	4.0	29.0
Front fork inner rod lock nut	15	1.5	11.0
Steering stem head nut	90	9.0	65.0
Front axle	100	10.0	72.5
Front axle pinch bolt	23	2.3	16.5
Brake disc bolt (Front & Rear)	23	2.3	16.5
Front brake caliper pad mounting pin	15	1.5	11.0
Front brake caliper housing bolt	22	2.2	16.0
Rear brake caliper bracket mounting bolt	80	8.0	58.0
Brake caliper mounting bolt (Front & Rear)	39	3.9	28.0
Brake caliper air bleeder valve (Front & Rear)	7.5	0.75	5.5
Brake hose union bolt (Front & Rear)	23	2.3	16.5
Brake master cylinder mounting bolt (Front & Rear)	10	1.0	7.0
Brake pedal boss bolt	16	1.6	11.5
Frame down tube bolt (Front & Rear)	50	5.0	36.0
Seat rail bolt	50	5.0	36.0
License light	5	0.5	3.5
Front footrest bolt RH	60	6.0	43.5
Front footrest bolt LH	50	5.0	36.0
Swingarm pivot shaft	100	10.0	72.5
Rear cushion lever nut (Upper)	110	11.0	79.5
Rear cushion lever nut (Lower)	85	8.5	61.5
Rear cushion rod nut	110	11.0	79.5
Rear shock absorber nut (Front & Rear)	45	4.5	32.5
Rear axle nut (For E-03, 28, 33)	100	10.0	72.5
Rear axle nut (For others)	110	11.0	79.5
Rear master cylinder rod lock nut	18	1.8	13.0