



Motorcycle
2013 Model: RM-Z450L3
Date: July 2012

MSRP \$8,699



New Features

1. Through feedback from factory racing, the piston, piston pin and connecting-rod are developed with use of Finite Element Method (FEM) analysis. New piston is 13% lighter without compromising the strength and rigidity.
2. New piston pin has Diamond-Like Carbon (DLC) surface treatment, for less friction and increased durability. Together with lighter piston, mechanical loss is reduced and throttle response is enhanced.
3. New crankcase reed valve is made thinner for more efficient lubrication. New oil strainer has strong magnet to catch more sludge in engine oil. Both contribute to better throttle response and smoother power delivery.
4. Intake cam timing and amount of lift are changed for smooth power delivery and ease of control.
5. Air cleaner outlet tube is reshaped for increased bottom-to-mid range power delivery. Back panel of cleaner box is now made of carbon fiber mixed material, for reduced intake noise.

6. Redesigned Exhaust system: With redesigned muffler internal parts, bottom-to-mid range power and torque are increased, results in increased controllability without losing top end.
7. New muffler body uses conventional bolts, instead of rivets to simplify the replacement of muffler's glass wool packing.
8. Redesigned 5-speed transmission with reshaped shift cam, stopper spring and drive shaft results in more solid shift feel, enabling more precise gear shift operation.
9. New fuel pump is made lighter, and revised locking system in connection parts of fuel hose means more precise and easier operation.
10. All new Separate Function front Fork (SFF) from Showa, separating the spring and damping tasks. The right leg contains the spring, while the left leg incorporates the cartridge assembly to manage damping. It results in reduced friction, increased absorption performance and weight saving
11. Front fork inner tube diameter is increased from 47mm to 48mm, results in optimized stability and absorption. Spring pre-load is now adjustable, allowing wider range of setting.
12. Frame and seat rail are reviewed and refined for optimized rigidity balance. This contributes to higher balance of stability and handling.
13. Dust cover is added on rear axle, for increased water/mud resistant performance.
14. Steering head dust cover is now made of plastic with sealed bearing (previously made of steel cap and rubber seal), lighter component maintains protection from water/mud intrusion.
15. New ECM has higher processing performance with optimized setting, and new ignition coil has higher power, both resulting in optimized combustion efficiency and enhanced roll-on performance.
16. For quick fuel setting adjustment, rich-lean coupler connector has been relocated for easier access. Fuel setting can be easily changed without using tools. Two electrical couplers are included for quickly adjusting the fuel setting to suit the riding conditions.
17. A self-diagnosis function is incorporated in the ECM. It can be accessed by using the optional FI indicator light (Part No. 36380-28H00). For 2013 model, the FI indicator has engine hour-meter function as well. So riders can track engine-operating time and better manage maintenance intervals.

Key Features

1. 449cc, 4-stroke liquid-cooled DOHC 4-valve fuel-injected engine developed and refined to deliver phenomenal idle-to-redline acceleration.
2. Lightweight, battery-less, motocross-use electronic fuel injection system with progressive throttle linkage makes for efficient power delivery.
3. 12-hole fuel injector delivers a fine fuel/air mist for efficient operation.

4. Aluminum cylinder with Suzuki Composite Electrochemical Material (SCEM) coating, built for durability, light weight and efficient heat transfer.
5. Link-type shifting system offers smooth transitions through the gears.
6. Slim chassis design makes for a slim riding position, opening up the cockpit to help allow the rider to actively take control of the machine.
7. Showa piggyback-reservoir rear shock with high/low-speed compression damping adjustment and rebound damping and spring preload adjustments.
8. The rear shock, working through Suzuki's superlative rising-rate linkage system, provides 310mm of wheel travel, delivering maximum traction.
9. Lightweight swingarm helps enhance terrain-traversing performance over bumps.
10. Race-inspired disc rotors offer enhanced cooling performance and efficient mud slinging.
11. Gripper seat, with projected cross-shaped patterns on top surface to provide additional grip.



SPECIFICATIONS**MODEL: RM-Z450L3****DIMENSIONS AND CURB MASS**

Overall length.....	2190 mm (86.2 in)
Overall width.....	830 mm (32.7 in)
Overall height.....	1270 mm (50.0 in)
Wheelbase.....	1495 mm (58.9 in)
Ground clearance.....	325 mm (12.8 in)
Seat height.....	955 mm (37.6 in)
Curb mass.....	113 kg (249 lbs)

ENGINE

Type.....	4-stroke, liquid-cooled, DOHC
Number of cylinders.....	1
Bore.....	96.0 mm (3.780 in)
Stroke.....	62.1 mm (2.445 in)
Displacement.....	449 cc (27.4 cu. in)
Compression ratio.....	12.5 : 1
Fuel system.....	Fuel injection
Air cleaner.....	Polyurethane foam element
Starter system.....	Primary kick
Lubrication system.....	Semi-dry sump
Idle speed.....	2100 ± 50 r/min

DRIVE TRAIN

Clutch.....	Wet multi-plate type
Transmission.....	5-speed constant mesh
Gearshift pattern.....	1-down, 4-up
Primary reduction ratio.....	2.625 (63/24)
Gear ratios, Low.....	1.800 (27/15)
2nd.....	1.471 (25/17)
3rd.....	1.235 (21/17)
4th.....	1.050 (21/20)
Top.....	0.909 (20/22)
Final reduction ratio.....	3.846 (50/13)
Drive chain.....	DID520MXV4, 114 links

CHASSIS

Front suspension.....	Telescopic, coil spring, oil damped
Rear suspension.....	Link type, coil spring, oil damped
Front suspension stroke.....	310 mm (12.2 in)
Rear wheel travel.....	310 mm (12.2 in)
Caster.....	28°40'
Trail.....	125 mm (4.92 in)
Steering angle.....	45° (right & left)
Turning radius.....	1.95 m (6.4 ft)
Front brake.....	Disc brake
Rear brake.....	Disc brake
Front tire.....	80/100-21 51M, tube type
Rear tire.....	110/90-19 62M, tube type

ELECTRICAL

Ignition type.....	Electronic ignition (CDI)
Ignition timing.....	12° B.T.D.C. at 2100 r/min
Spark plug.....	NGK DIMR8A10

CAPACITIES

Fuel tank.....	6.2 L (1.6/1.4 US/Imp gal)
Engine oil, oil change.....	1050 ml (1.1/0.9 US/Imp qt)
with filter change.....	1100 ml (1.2/1.0 US/Imp qt)
overhaul.....	1200 ml (1.3/1.1 US/Imp qt)
Coolant.....	1.1 L (1.2/1.0 US/Imp qt)

SERVICE DATA**VALVE + GUIDE**

Unit: mm (in)

ITEM	STANDARD		LIMIT
Valve diam.	IN.	36 (1.4)	—
	EX.	31 (1.2)	—
Tappet clearance (when cold)	IN.	0.09 – 0.16 (0.004 – 0.006)	—
	EX.	0.17 – 0.24 (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 stem deflection	IN. & EX.	—	0.25 (0.010)
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 runout	IN. & EX.	—	0.05 (0.002)
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	IN. & EX.	—	35.8 (1.41)
Valve spring tension	IN. & EX.	146 – 168 N (14.9 – 17.1 kgf, 32.8 – 37.7 lbs at length 30.9 mm (1.22 in))	—

CAMSHAFT + CYLINDER HEAD

Unit: mm (in)

ITEM	STANDARD		LIMIT
Cam height	IN.	35.58 – 35.62 (1.401 – 1.402)	35.28 (1.389)
	EX.	34.43 – 34.48 (1.356 – 1.357)	34.13 (1.344)
Camshaft journal oil clearance	IN. & EX.	0.032 – 0.066 (0.001 – 0.002)	0.150 (0.0059)
Camshaft journal holder I.D.	IN. & EX.	22.012 – 22.025 (0.8667 – 0.8671)	—
Camshaft journal O.D.	IN. & EX.	21.959 – 21.980 (0.8645 – 0.8654)	—
Camshaft runout	—		0.10 (0.004)
Cam chain pin	14th pin		—
Cylinder head distortion	—		0.05 (0.002)

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD		LIMIT
Compression pressure (Automatic decomp. actuated)	300 kPa (3.0 kgf/cm ² , 43 psi) or more		—
Piston to cylinder clearance	0.035 – 0.045 (0.0014 – 0.0018)		0.120 (0.0047)
Cylinder bore	96.000 – 96.015 (3.7795 – 3.7801)		Nicks or scratches
Piston diam.	95.960 – 95.975 (3.7779 – 3.7785) Measure at 16 mm (0.6 in) from the skirt end.		95.880 (3.7748)
Cylinder distortion	—		0.05 (0.002)
Piston ring free end gap	1st	Approx. 8.7 (0.34)	7.0 (0.28)
Piston ring end gap	1st	0.20 – 0.30 (0.008 – 0.012)	0.50 (0.020)
Piston ring to groove clearance	1st	—	0.180 (0.007)
Piston ring groove width	1st	0.78 – 0.80 (0.0307 – 0.0315)	—
		1.30 – 1.32 (0.0512 – 0.0520)	—
	Oil	2.01 – 2.03 (0.0791 – 0.0799)	—
Piston ring thickness	1st	0.71 – 0.76 (0.0279 – 0.0299)	—
		1.08 – 1.10 (0.0425 – 0.0433)	—
Piston pin bore	19.002 – 19.008 (0.7425 – 0.7433)		19.030 (0.7492)
Piston pin O.D.	18.992 – 19.000 (0.7477 – 0.7480)		18.980 (0.7472)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	19.018 – 19.038 (0.7487 – 0.7495)	19.050 (0.7500)
Conrod deflection	—	3.0 (0.12)
Conrod big end side clearance	0.20 – 0.65 (0.008 – 0.026)	1.0 (0.04)
Conrod big end width	19.75 – 19.80 (0.778 – 0.780)	—
Crank web to web width	61.9 – 62.1 (2.437 – 2.445)	—
Crankshaft runout	—	0.08 (0.003)

OIL PUMP

ITEM	STANDARD	LIMIT
Oil pressure (at 50 °C, 122 °F)	50 kPa (0.5 kgf/cm ² , 7.1 psi) at 4 000 r/min	—

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch lever clearance	2 – 3 (0.08 – 0.12)	—
Drive plate thickness (No.1 & No.2)	3.07 – 3.23 (0.121 – 0.127)	2.77 (0.109)
Drive plate claw width (No.1 & No.2)	13.85 – 13.95 (0.545 – 0.549)	13.05 (0.514)
Driven plate distortion	—	0.10 (0.004)
Clutch spring free length	51.94 (2.045)	49.4 (1.94)

RADIATOR + ENGINE COOLANT

ITEM	STANDARD/SPECIFICATION		LIMIT
ECT sensor resistance	20 °C (68 °F)	Approx. 2.58 kΩ	—
	50 °C (122 °F)	Approx. 0.77 kΩ	—
	80 °C (176 °F)	Approx. 0.28 kΩ	—
Radiator cap valve opening pressure	95 – 125 kPa (0.95 – 1.25 kgf/cm ² , 14 – 18 psi)		—
Engine coolant type	Use an anti-freeze/coolant compatible with aluminum radiator.		—
Engine coolant capacity	1 100 ml (1.2/1.0 US/lmp qt)		—

TRANSMISSION + DRIVE CHAIN

Unit: mm (in) Except ratio

ITEM		STANDARD		LIMIT
Primary reduction ratio		2.625 (63/24)		—
Final reduction ratio		3.846 (50/13)		—
Gear ratios	Low	1.800 (27/15)		—
	2nd	1.470 (25/17)		—
	3rd	1.235 (21/17)		—
	4th	1.050 (21/20)		—
	Top	0.909 (20/22)		—
Shift fork to groove clearance		No.1, 2, 3	0.1 – 0.3 (0.004 – 0.012)	0.5 (0.02)
Shift fork groove width		No.1, 2, 3	5.0 – 5.1 (0.197 – 0.201)	—
Shift fork thickness		No.1, 2, 3	4.8 – 4.9 (0.189 – 0.193)	—
Drive chain	Type	DID 520 MXV4		—
	Links	114		—
Drive chain plate height	Inner	15.0 (0.59)		12.75 (0.502)
	Outer	12.8 (0.50)		11.20 (0.441)
Drive chain slack		40 – 50 (1.6 – 2.0)		—

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	89 ml (3.0/ 3.1 US/Imp oz) or more /10 sec.	
Fuel pressure regulator operating set pressure	Approx. 294 kPa (2.94 kgf/cm ² , 41.81 psi)	

FI SENSORS

ITEM	STANDARD/SPECIFICATION		NOTE
CKP sensor resistance	80 – 120 Ω		
CKP sensor peak voltage	2.8 V or more		
IAP sensor input voltage	4.5 – 5.5 V		
IAP sensor output voltage	0.98 – 2.86 V at idle speed		
TP sensor input voltage	4.5 – 5.5 V		
TP sensor output voltage	Closed	0.60 – 0.64 V	
	Opened	3.60 – 4.00 V	
ECT sensor input voltage	4.5 – 5.5 V		
ECT sensor resistance	Approx. 2.58 k Ω at 20 °C (68 °F)		
IAT sensor input voltage	4.5 – 5.5 V		
IAT sensor resistance	Approx. 2.58 k Ω at 20 °C (68 °F)		
TO sensor resistance	Approx. 19.4 k Ω at 20 °C (68 °F)		
TO sensor voltage	Normal	0.4 – 1.4 V	
	Leaning	3.7 – 4.4 V	When leaning 65°
GP switch voltage	0.6 V or more		From 1st to Top
Injector voltage	Battery voltage		

THROTTLE BODY

ITEM	SPECIFICATION
Bore size	43 mm
I.D. No.	28H4
Idle r/min	2 100 \pm 50 r/min
Idle screw	5 – 6 turns back
Throttle cable play	2 – 4 mm (0.08 – 0.16 in)
Hot starter lever clearance	2 – 3 mm (0.08 – 0.12 in)

ELECTRICAL

Unit: mm (in)

ITEM	STANDARD/SPECIFICATION		NOTE
Ignition timing	12° B.T.D.C. at 2 100 r/min.		
Spark plug	Type	NGK: DIMR8A10	
	Gap	0.9 – 1.0 (0.035 – 0.039)	
Spark performance	Over 8 (0.3) at 1 atm.		
CKP sensor resistance	80 – 120 Ω		R – G
Charge coil resistance	1.2 – 2.5 Ω		Y – Y
CKP sensor peak voltage	2.8 V or more		⊕ R – ⊖ G
Ignition coil resistance	Primary	0.17 – 0.70 Ω	W/BI – B/W
	Secondary	9 – 14 k Ω	Plug cap – B/W
Ignition coil primary peak voltage	170 V or more		⊕ B/W – ⊖ W/BI
Magneto no-load voltage (When engine is cold)	100 V (AC) or more at 5 000 r/min		
Regulated voltage	13.5 – 15.0 V at 5 000 r/min		
Engine stop switch resistance	Under 1 Ω		B/Y – B/W

BRAKE + WHEEL

Unit: mm (in)

ITEM	STANDARD		LIMIT
Brake lever adjuster length	11 – 15 (0.4 – 0.6)		—
Rear brake pedal height	0 – 10 (0 – 0.4)		—
Brake disc thickness	Front	3.0 ± 0.2 (0.118 ± 0.008)	2.5 (0.10)
	Rear	4.0 ± 0.15 (0.157 ± 0.006)	3.5 (0.14)
Brake disc distortion	Front & Rear	—	0.3 (0.012)
Master cylinder bore	Front	11.000 – 11.043 (0.4331 – 0.4348)	—
	Rear	11.000 – 11.043 (0.4331 – 0.4348)	—
Master cylinder piston diam.	Front	10.957 – 10.984 (0.4314 – 0.4324)	—
	Rear	10.957 – 10.984 (0.4314 – 0.4324)	—
Brake caliper cylinder bore	Front	27.000 – 27.050 (1.0630 – 1.0650)	—
	Rear	25.400 – 25.450 (1.0000 – 1.0020)	—
Brake caliper piston diam.	Front	26.900 – 26.950 (1.0591 – 1.0610)	—
	Rear	25.335 – 25.368 (0.9974 – 0.9987)	—
Brake fluid type	DOT 4		—
Wheel rim runout	Axial	—	2.0 (0.08)
	Radial	—	2.0 (0.08)
Wheel rim size	Front	1.60 × 21	—
	Rear	2.15 × 19	—
Wheel axle runout	Front	—	0.25 (0.010)
	Rear	—	0.25 (0.010)

TIRE

ITEM	STANDARD/SPECIFICATION		LIMIT
Cold inflation tire pressure	Front & Rear	70 – 110 kPa (0.7 – 1.1 kgf/cm ² , 10 – 16 psi)	—
Tire size	Front	80/100-21 51M	—
	Rear	110/90-19 62M	—
Tire type	Front	M403	—
	Rear	M404	—
Tire tread depth (Recommend depth)	Front & Rear	—	4.0 mm (0.16 in)

SUSPENSION

Unit: mm (in)

ITEM		STANDARD	LIMIT	NOTE
Front fork stroke		310 (12.2)	—	
Front fork inner tube O.D.		48 (1.9)	—	
Front fork spring free length		660 (26.0)	653.5 (25.73)	
Front fork spring adjuster (Right front fork)		MIN – 6 clicks turn clockwise	—	
Front fork damping force adjuster (Left front fork)	Rebound	MAX – 12 clicks turn counterclockwise	—	
	Compression	MAX – 9 clicks turn counterclockwise	—	
Front fork air pressure		0 kPa (0 kgf/cm ² , 0 psi)	—	
Front fork spring rate		9.8 N/mm (1.00 kgf/mm)	—	
Rear shock absorber gas pressure		784 – 980 kPa (7.8 kgf/cm ² , 111.5 psi – 9.8 kgf/cm ² , 139.4 psi)	—	
Rear shock absorber spring set length		5.5 (0.22)	—	5.5 mm (0.22 in) com- pressed from spring free length
Rear shock absorber spring rate		55.9 N/mm (5.70 kgf/mm)	—	
Rear shock absorber damping force adjuster	Rebound	MAX – 12 clicks turn counterclockwise	—	
	Compression (High speed)	MAX – 2 turns coun- terclockwise	—	
	Compression (Low speed)	MAX – 12 clicks turn counterclockwise	—	
Rear wheel travel		310 (12.2)	—	
Swingarm pivot shaft runout		—	0.3 (0.01)	

FUEL + OIL

ITEM	SPECIFICATION		NOTE
Fuel type	Use only unleaded gasoline of at least 90 pump octane (R/2 + M/2 method).		E-03, 28
	Use only unleaded gasoline of at least 95 octane. (Research method)		The others
Fuel tank capacity	6.2 L (1.6/1.4 US/Imp gal)		
Engine oil type	SAE 10W-40, API SG/SH/SJ/SL with JASO MA/MA1/MA2		E-03
	MOTUL 300V 10W-40 (Recommendation oil) or SAE 10W-40, API SG/SH/SJ/SL with JASO MA/MA1/MA2		The others
Engine oil capacity	Change	1 050 ml (1.1/0.9 US/Imp qt)	
	Filter change	1 100 ml (1.2/1.0 US/Imp qt)	
	Overhaul	1 200 ml (1.3/1.1 US/Imp qt)	
Air cleaner element oil type	MOTUL AIR FILTER OIL or equivalent		
Front fork oil type	SHOWA SUSPENSION FLUID SS-19 or equivalent		
Left front fork oil capacity	310 ml (10.5/10.9 US/Imp oz)		Outer tube oil quantity
	326 ml (11.0/11.5 US/Imp oz)		Fork cylinder unit oil quantity
Right front fork oil capacity (When standard fork spring is used)	350 ml (11.8/12.3 US/Imp oz)		Outer tube oil quantity
Rear shock absorber oil type	SHOWA SUSPENSION FLUID SS-25 or equivalent		
Rear shock absorber oil capacity	383 ml (13.0 /13.5 US/Imp oz)		

TIGHTENING TORQUE

ENGINE

PART		N·m	kgf-m	lbf-ft
Cylinder head cover bolt		14	1.4	10.0
Spark plug		11	1.1	8.0
Cylinder head bolt	(Initial)	25	2.5	18.0
	(Final)	51	5.1	37.0
Cylinder head base bolt		10	1.0	7.0
Cylinder base bolt		10	1.0	7.0
Camshaft journal holder bolt		10	1.0	7.0
Oil gallery bolt (journal holder)		10	1.0	7.0
Primary drive gear nut		110	11.0	79.5
Magneto rotor nut		80	8.0	58.0
Clutch sleeve hub nut		90	9.0	65.0
Clutch spring set bolt		10	1.0	7.0
Gearshift arm stopper		23	2.3	16.5
Gearshift cam driven pin		24	2.4	17.5
Pawl lifter screw		8.5	0.85	6.0
Bearing retainer screw		8.5	0.85	6.0
Kick starter guide bolt		10	1.0	7.0
Cam chain tension adjuster mounting bolt		10	1.0	7.0
Cam chain tension adjuster cap bolt		23	2.3	16.5
Cam chain tensioner bolt		10	1.0	7.0
Cam chain guide retainer bolt		10	1.0	7.0
Right crankcase cover bolt		11	1.1	8.0
Engine oil drain plug		12	1.2	8.5
Engine oil check bolt		5.5	0.55	4.0
Oil filter cap bolt		11	1.1	8.0
Oil gallery plug		10	1.0	7.0
Oil pump No.1 bolt		5.5	0.55	4.0
Oil pump No.2 bolt		11	1.1	8.0
Engine oil strainer cap		21	2.1	15.0
Crankcase bolt		11	1.1	8.0
Clutch cover bolt		11	1.1	8.0
TDC plug		14	1.4	10.0
Magneto cover bolt		11	1.1	8.0
Crankshaft hole plug		11	1.1	8.0
Magneto stator bolt		5.5	0.55	4.0
Ignition coil mounting bolt		10	1.0	7.0
Regulator/rectifier mounting bolt		10	1.0	7.0
Condenser bracket bolt		10	1.0	7.0
Air cleaner bolt		5	0.5	3.5

PART	N·m	kgf-m	lbf-ft
Engine mounting bolt	55	5.5	40.0
Engine mounting nut (front)	66	6.6	47.5
Engine mounting nut (lower)	66	6.6	47.5
Engine mounting bracket nut (front)	66	6.6	47.5
Engine mounting bracket bolt (upper)	40	4.0	29.0
Intake pipe bolt	10	1.0	7.0
Engine sprocket bolt	36	3.6	26.0
Engine sprocket cover bolt	11	1.1	8.0
Kick starter lever bolt	29	2.9	21.0
Kick starter lever screw	10	1.0	7.0
Exhaust pipe nut	23	2.3	16.5
Muffler connector clamp bolt	19	1.9	13.5
Muffler mounting bolt (front)	23	2.3	16.5
Muffler mounting bolt (rear)	23	2.3	16.5
Exhaust pipe cover bolt	11	1.1	8.0
Rear muffler body mounting bolt	10	1.0	7.0
Front protector bolt	12	1.2	8.5

FI SYSTEM AND INTAKE AIR SYSTEM

ITEM	N·m	kgf-m	lbf-ft
CKP sensor bolt	5.5	0.55	4.0
IAT sensor mounting screw	1.3	0.13	0.95
GP switch mounting bolt	6.5	0.65	4.7
Fuel delivery pipe mounting screw	3.5	0.35	2.5
Fuel pipe mounting screw	3.5	0.35	2.5
Fuel pump mounting bolt	10	1.0	7.0
TP sensor mounting screw	3.5	0.35	2.5
ECT sensor	12	1.2	8.5
ECM bracket mounting bolt	10	1.0	7.0
TO sensor bracket bolt	8.5	0.85	6.0

COOLING SYSTEM

ITEM	N·m	kgf-m	lbf-ft
Impeller	8	0.8	6.0
Water pump case bolt	11	1.1	8.0
Engine coolant drain bolt	11	1.1	8.0
Radiator air bleeder bolt	6	0.6	4.5
Water hose clamp screw	1.5	0.15	1.0

CHASSIS

PART	N·m	kgf-m	lbf-ft
Handlebar clamp bolt	25	2.5	18.0
Handlebar holder set nut	44	4.4	32.0
Front fork upper clamp bolt (right and left)	23	2.3	16.5
Front fork lower clamp bolt (right and left)	23	2.3	16.5
Steering stem head nut	120	12.0	87.0
Steering stem nut	45 N·m (4.5 kgf-m, 32.5 lbf-ft) then turn back 1/4 – 1/2		
Front fork cap bolt (fork cylinder unit and spring adjust unit)	34	3.4	24.5
Lock-nut/center bolt	22	2.2	16.0
Front fork center bolt	69	6.9	50.0
Front fork compression damper unit	30	3.0	21.5
Front fork spring adjust	30	3.0	21.5
Front fork air bleeder valve	1.3	0.13	1.0
Front fork protector bolt	4.9	0.49	3.5
Front brake master cylinder holder bolt (upper)	10	1.0	7.0
Front brake master cylinder holder bolt (lower)	12	1.2	8.5
Rear brake master cylinder mounting bolt	10	1.0	7.0
Rear brake master cylinder rod lock-nut	6	0.6	4.5
Brake lever pivot bolt	6	0.6	4.5
Brake lever pivot bolt lock-nut	6	0.6	4.5
Brake pedal pivot bolt	29	2.9	21.0
Brake hose union bolt (front and rear)	23	2.3	16.5
Brake hose guide bolt (front)	3	0.3	2.0
Brake caliper mounting bolt (front)	26	2.6	19.0
Brake pad mounting pin (front and rear)	18	1.8	13.0
Front brake caliper axle bolt (caliper)	25	2.5	18.0
Front brake caliper axle bolt (bracket)	28	2.8	20.0
Rear brake caliper axle bolt (caliper)	43	4.3	31.0
Rear brake caliper axle bolt (bracket)	13	1.3	9.5
Brake air bleeder valve (front and rear)	6	0.6	4.5
Disc plate bolt (front)	11	1.1	8.0
Disc plate bolt (rear)	26	2.6	19.0
Front axle nut	35	3.5	25.5
Front axle holder bolt	21	2.1	15.0
Rear axle nut	100	10.0	72.5
Rear sprocket nut	30	3.0	21.5
Drive chain roller bolt and nut	23	2.3	16.5
Spoke nipple	6	0.6	4.5
Front wheel rim lock	14	1.4	10.0
Rear wheel rim lock	17	1.7	12.5
Cable adjuster lock-nut (throttle)	4.5	0.45	3.25
Cable adjuster lock-nut (clutch and hot starter)	2.2	0.22	1.6
Clutch cable bracket bolt	6	0.6	4.5

PART	N·m	kgf-m	lbf-ft
Rear swingarm pivot nut (engine mounting)	70	7.0	50.5
Swingarm rear axle plate screw	3	0.3	2.0
Rear shock absorber mounting nut (upper and lower)	50	5.0	36.0
Rear shock absorber compression adjuster assembly	30	3.0	21.5
Rear cushion lever nut (upper and lower)	80	8.0	58.0
Rear cushion rod nut	80	8.0	58.0
Rear shock absorber spring adjuster lock-nut	70	7.0	50.5
Seat rail bolt (upper and lower)	23	2.3	16.5
Footrest bolt	35	3.5	25.5