

1. GENERAL INFORMATION

1

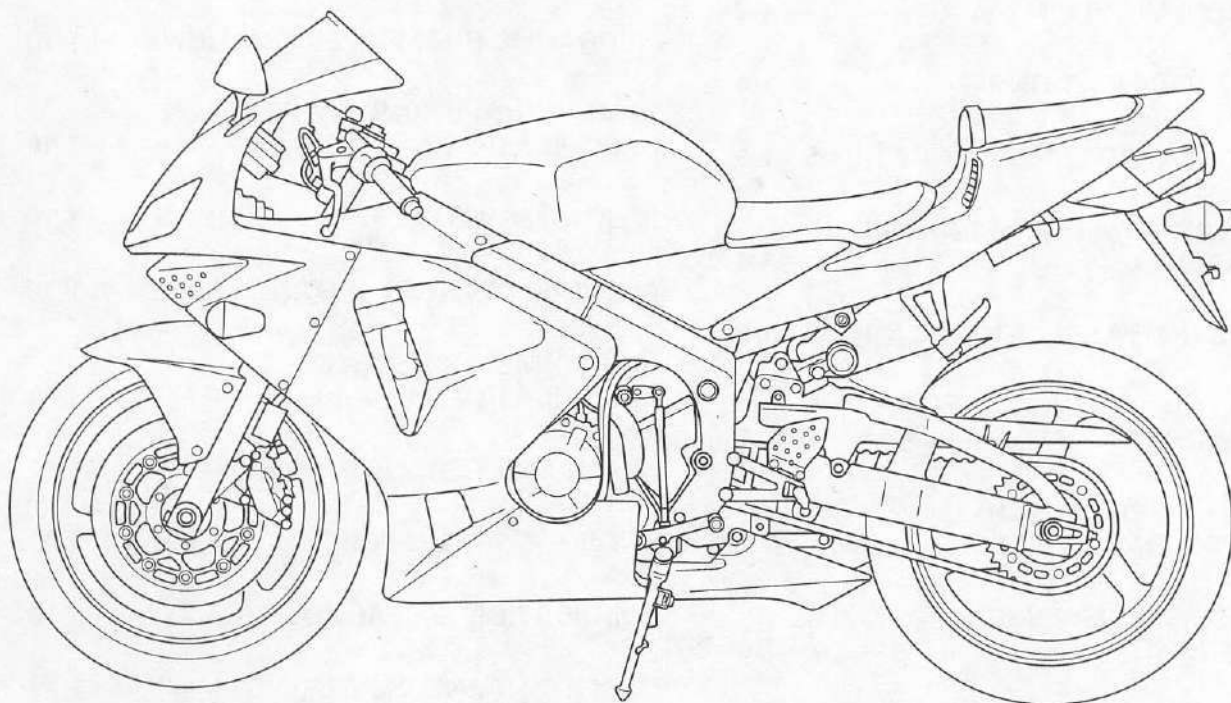
SERVICE RULES	1-2	REAR WHEEL/SUSPENSION SPECIFICATIONS.....	1-9
MODEL IDENTIFICATION.....	1-2	HYDRAULIC BRAKE SPECIFICATIONS.....	1-10
GENERAL SPECIFICATIONS.....	1-4	BATTERY/CHARGING SYSTEM SPECIFICATIONS.....	1-10
LUBRICATION SYSTEM SPECIFICATIONS	1-6	IGNITION SYSTEM SPECIFICATIONS	1-10
FUEL SYSTEM (Programmed Fuel Injection) SPECIFICATIONS.....	1-6	ELECTRIC STARTER SPECIFICATIONS	1-10
COOLING SYSTEM SPECIFICATIONS	1-6	LIGHTS/METERS/SWITCHES SPECIFICATIONS.....	1-11
CYLINDER HEAD/VALVES SPECIFICATIONS.....	1-7	STANDARD TORQUE VALUES	1-12
CLUTCH/STARTER CLUTCH/ GEARSHIFT LINKAGE SPECIFICATIONS.....	1-7	ENGINE & FRAME TORQUE VALUES	1-12
CRANKCASE/TRANSMISSION SPECIFICATIONS.....	1-8	LUBRICATION & SEAL POINTS	1-19
CRANKSHAFT/PISTON/CYLINDER SPECIFICATIONS.....	1-8	CABLE & HARNESS ROUTING	1-22
FRONT WHEEL/SUSPENSION/ STEERING SPECIFICATIONS.....	1-9	EMISSION CONTROL SYSTEMS	1-36
		EMISSION CONTROL INFORMATION LABELS (U.S.A. only).....	1-39

GENERAL INFORMATION

SERVICE RULES

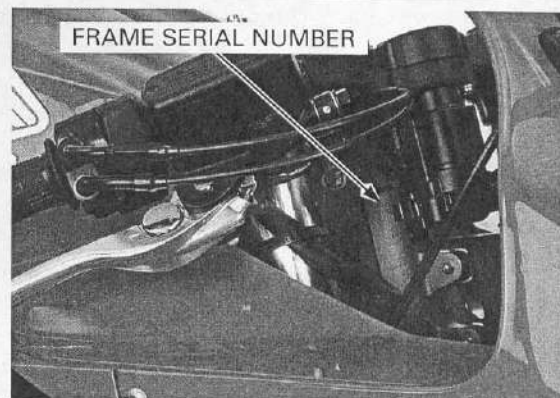
1. Use genuine Honda or Honda-recommended parts and lubricants or their equivalents. Parts that don't meet Honda's design specifications may cause damage to the motorcycle.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing the motorcycle. Metric bolts, nuts and screws are not interchangeable with English fasteners.
4. Install new gaskets, O-rings, cotter pins, and lock plates when reassembling.
5. When tightening bolts or nuts, begin with the larger diameter or inner bolt first. Then tighten to the specified torque diagonally in incremental steps unless a particular sequence is specified.
6. Clean parts in cleaning solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
7. After reassembly, check all parts for proper installation and operation.
8. Route all electrical wires as shown in the Cable and Harness Routing (page 1-22).

MODEL IDENTIFICATION

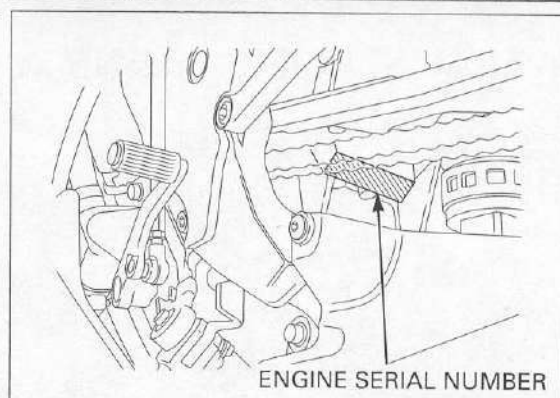


GENERAL INFORMATION

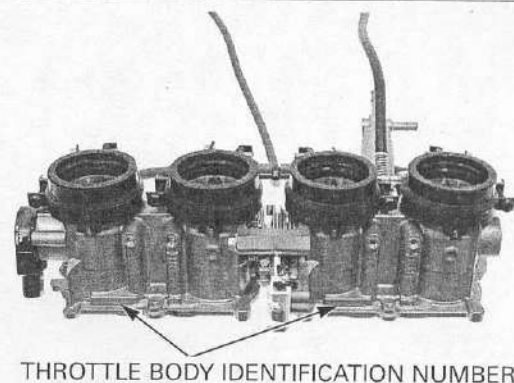
The frame serial number is stamped on the right side of the steering head.



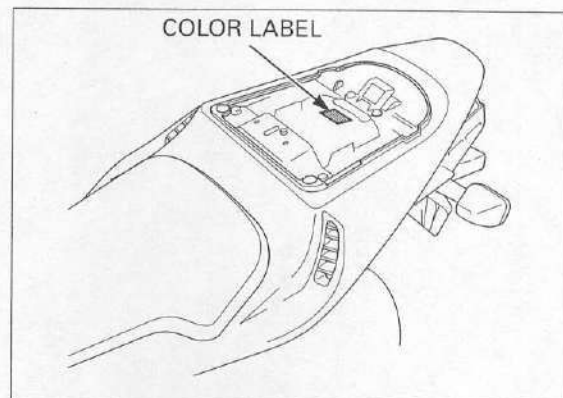
The engine serial number is stamped on the lower side of the lower crankcase.



The throttle body identification number is stamped on the intake side of the throttle body as shown.



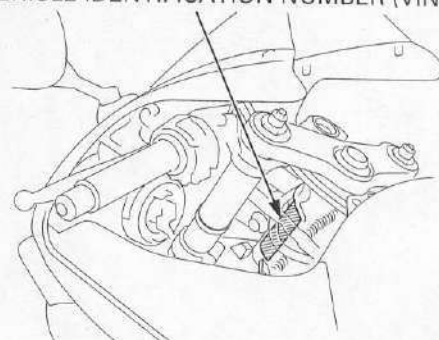
The color label is attached as shown. When ordering color-coded parts, always specify the designated color code.



GENERAL INFORMATION

The Vehicle Identification Number (VIN) is located on left side of the main frame on the Safety Certification Labels.

VEHICLE IDENTIFICATION NUMBER (VIN)



GENERAL SPECIFICATIONS

	ITEM	SPECIFICATIONS
DIMENSIONS	Overall length	2,030 mm (79.9 in)
	Overall width	695 mm (27.4 in)
	Overall height	1,115 mm (43.9 in)
	Wheelbase	1,390 mm (54.7 in)
	Seat height	820 mm (32.3 in)
	Footpeg height	395 mm (15.6 in)
	Ground clearance	130 mm (5.1 in)
	Dry weight	
	49 states, Canada type:	169 kg (373 lbs)
	California type:	169 kg (373 lbs)
	Curb weight	
	49 states, Canada type:	199 kg (439 lbs)
	California type:	202 kg (445 lbs)
	Maximum weight capacity	
	49 states, California type:	166 kg (366 lbs)
	Canada type:	170 kg (375 lbs)
FRAME	Frame type	Diamond
	Front suspension	Telescopic fork
	Front axle travel	102.7 mm (4.04 in)
	Rear suspension	Swingarm
	Rear axle travel	130 mm (5.12 in)
	Front tire size	120/70ZR17 M/C (58W)
	Rear tire size	180/55ZR17 M/C (73W)
	Front tire brand	BT012F RADIAL G (Bridgestone)
		D208FK (Dunlop)
		Pilot SPORT E (Michelin)
	Rear tire brand	BT012R RADIAL L (Bridgestone)
		D208K (Dunlop)
		Pilot SPORT E (Michelin)
	Front brake	Hydraulic double disc
	Rear brake	Hydraulic single disc
	Caster angle	24°
	Trail length	95 mm (3.7 in)
	Fuel tank capacity	18.0 liter (4.76 US gal, 3.96 Imp gal)

GENERAL INFORMATION

ITEM		SPECIFICATIONS
ENGINE	Cylinder arrangement	4 cylinders in-line, inclined 38° from vertical
	Bore and stroke	67.0 X 42.5 mm (2.64 X 1.67 in)
	Displacement	599 cm ³ (36.5 cu-in)
	Compression ratio	12.0: 1
	Valve train	Chain driven, DOHC
	Intake valve	opens at 1 mm (0.04 in) lift
		closes at 1 mm (0.04 in) lift
	Exhaust valve	opens at 1 mm (0.04 in) lift
		closes at 1 mm (0.04 in) lift
	Lubrication system	Forced pressure and wet sump
	Oil pump type	Trochoid
	Cooling system	Liquid cooled
	Air filtration	Paper element
FUEL DELIVERY SYSTEM	Engine dry weight	58.3 kg (128.5 lbs)
	Firing order	1 - 2 - 4 - 3
FUEL DELIVERY SYSTEM	Type	PGM-FI (Programmed Fuel Injection)
	Throttle bore	40 mm (1.6 in)
DRIVE TRAIN	Clutch system	Multi-plate, wet
	Clutch operation system	Cable operating
	Transmission	Constant mesh, 6-speeds
	Primary reduction	2.111 (76/36)
	Final reduction	2.688 (43/16)
	Gear ratio	2.666 (32/12)
		1.937 (31/16)
		1.611 (29/18)
		1.409 (31/22)
		1.260 (29/23)
		1.666 (28/24)
	Gearshift pattern	Left foot operated return system, 1 - N - 2 - 3 - 4 - 5 - 6
ELECTRICAL	Ignition system	Computer-controlled digital transistorized with electric advance
	Starting system	Electric starter motor
	Charging system	Triple phase output alternator
	Regulator/rectifier	SCR shorted/triple phase, full wave rectification
	Lighting system	Battery

GENERAL INFORMATION

LUBRICATION SYSTEM SPECIFICATIONS

ITEM		STANDARD	Unit: mm (in) SERVICE LIMIT
Engine oil capacity	After draining	2.6 liter (2.7 US qt, 2.3 Imp qt)	—
	After oil filter change	2.9 liter (3.1 US qt, 2.6 Imp qt)	—
	After disassembly	3.5 liter (3.7 US qt, 3.1 Imp qt)	—
Recommended engine oil		Pro Honda GN4 or HP4 (without molybdenum additives) 4-stroke oil (U.S.A. & Canada) or Honda 4-stroke oil (Canada only) or an equivalent motorcycle oil API service classification SG or Higher except oils labeled as energy conserving on the circular API service label JASO T 903 standard: MA Viscosity: SAE 10W-40	—
Oil pressure at oil pressure switch		540 kPa (5.5 kgf/cm ² , 78 psi) at 6,000 rpm/(80°C/176°F)	—
Oil pump	Tip clearance	0.15 (0.006)	0.20 (0.008)
	Body clearance	0.15 – 0.21 (0.006 – 0.008)	0.35 (0.014)
	Side clearance	0.04 – 0.09 (0.002 – 0.004)	0.17 (0.007)

FUEL SYSTEM (Programmed Fuel Injection) SPECIFICATIONS

ITEM		SPECIFICATIONS
Throttle body identification number	49 states, Canada type:	GQ63C
	California type:	GQ63B
Starter valve vacuum difference		20mm Hg
Base throttle valve for synchronization		No. 3
Idle speed		1,300 ± 100 rpm
Throttle grip free play		2 – 4 mm (1/16 – 1/8 in)
Intake air temperature sensor resistance (at 20°C/68°F)		1 – 4 kΩ
Engine coolant temperature sensor resistance (at 20°C/68°F)		2.3 – 2.6 kΩ
Fuel injection resistance (at 20°C/68°F)	Secondary injector	10.5 – 14.5 Ω
	Primary injector	10.5 – 14.5 Ω
PAIR control solenoid valve resistance (at 20°C/68°F)		20 – 24 Ω
Cam pulse generator peak voltage (at 20°C/68°F)		0.7 V minimum
Ignition pulse generator peak voltage (at 20°C/68°F)		0.7 V minimum
Manifold absolute pressure at idle		150 – 250 mm Hg
Fuel pressure at idle		343 kPa (3.5 kgf/cm ² , 50 psi)
Fuel pump flow (at 12V)		189 cm ³ (6.4 US oz, 6.7 Imp oz) minimum/10 seconds

COOLING SYSTEM SPECIFICATIONS

ITEM		SPECIFICATIONS
Coolant capacity	Radiator and engine	3.2 liter (3.4 US qt, 2.8 Imp qt)
	Reserve tank	0.30 liter (0.32 US qt, 0.26 Imp qt)
Radiator cap relief pressure		108 – 137 kPa (1.1 – 1.4 kgf/cm ² , 16 – 20 psi)
Thermostat	Begin to open	80 – 84 °C (176 – 183 °F)
	Valve lift	8 mm (0.3 in) minimum at 90°C (194°F)
Recommended antifreeze		Pro Honda HP Coolant or an equivalent high quality ethylene glycol antifreeze containing corrosion protection inhibitors
Standard coolant concentration		1 : 1 mixture of antifreeze and soft water

GENERAL INFORMATION

CYLINDER HEAD/VALVES SPECIFICATIONS

Unit: mm (in)

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Cylinder compression			1,226 kPa (12.5 kgf/cm ² , 178psi) at 350 rpm	
Valve clearance		IN	0.20 ± 0.03 (0.008 ± 0.001)	—
		EX	0.28 ± 0.03 (0.011 ± 0.001)	—
Camshaft	Cam lobe height	IN	36.36 – 36.60 (1.431 – 1.441)	36.34 (1.431)
		EX	35.34 – 35.58 (1.391 – 1.401)	35.32 (1.391)
	Runout		—	0.05 (0.002)
	Oil clearance		0.020 – 0.062 (0.0008 – 0.0024)	0.10 (0.004)
Valve lifter	Valve lifter O.D.		25.978 – 25.993 (1.0228 – 1.0233)	25.97 (1.022)
	Valve lifter bore I.D.		26.010 – 26.026 (1.0240 – 1.0246)	26.04 (1.025)
Valve, valve guide	Valve stem O.D.	IN	3.975 – 3.990 (0.1565 – 0.1571)	3.965 (0.1561)
		EX	3.965 – 3.980 (0.1561 – 0.1567)	3.955 (0.1557)
	Valve guide I.D.	IN/EX	4.000 – 4.012 (0.1575 – 0.1580)	4.04 (0.159)
	Stem-to-guide clearance	IN	0.010 – 0.037 (0.0004 – 0.0015)	0.075 (0.0030)
		EX	0.020 – 0.047 (0.0008 – 0.0019)	0.085 (0.0033)
	Valve guide projection above cylinder head	IN	17.1 – 17.4 (0.67 – 0.69)	—
		EX	13.3 – 13.6 (0.52 – 0.54)	—
	Valve seat head	IN	0.90 – 1.10 (0.035 – 0.043)	1.5 (0.06)
		EX	0.90 – 1.10 (0.035 – 0.043)	1.5 (0.06)
Valve spring free length	IN	Inner	36.17 (1.424)	35.1 (1.38)
		Outer	39.76 (1.565)	38.8 (1.53)
	EX	Inner	35.34 (1.391)	34.4 (1.35)
		Outer	39.05 (1.537)	38.1 (1.50)
Cylinder head warpage			—	0.10 (0.004)

CLUTCH/STARTER CLUTCH/GEARSHIFT LINKAGE SPECIFICATIONS

Unit: mm (in)

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Clutch lever free play		10 – 20 (3/8 – 13/16)	–
Clutch	Spring free length	46.5 (1.83)	45.2 (1.78)
	Disc thickness	2.92 – 3.08 (0.115 – 0.121)	2.6 (0.10)
	Plate warpage	–	0.30 (0.012)
Clutch outer guide A (Without ID mark)	I.D.	24.993 – 25.003 (0.9840 – 0.9844)	25.013 (0.9848)
	O.D.	35.004 – 35.012 (1.3781 – 1.3784)	34.994 (1.3777)
Clutch outer guide B (With ID mark)	I.D.	24.993 – 25.003 (0.9840 – 0.9844)	25.013 (0.9848)
	O.D.	34.996 – 35.004 (1.3778 – 1.3781)	34.986 (1.3774)
Primary driven gear I.D.	A	41.008 – 41.016 (1.6145 – 1.6148)	41.026 (1.6152)
	B	41.000 – 41.008 (1.6142 – 1.6145)	41.018 (1.6149)
Oil pump drive sprocket guide	I.D.	25.000 – 25.021 (0.9843 – 0.9851)	25.031 (0.9855)
	O.D.	34.950 – 34.975 (1.3760 – 1.3770)	34.940 (1.3756)
Oil pump drive sprocket I.D.		35.025 – 35.145 (1.3789 – 1.3837)	35.155 (1.3841)
Mainshaft O.D. at clutch outer guide		24.980 – 24.990 (0.9835 – 0.9839)	24.960 (0.9827)
Mainshaft O.D. at oil pump drive sprocket guide		24.980 – 24.990 (0.9835 – 0.9839)	24.960 (0.9827)
Starter driven gear boss O.D.		45.657 – 45.673 (1.7975 – 1.7981)	45.642 (1.7969)

GENERAL INFORMATION

CRANKCASE/TRANSMISSION SPECIFICATIONS

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Shift fork	I.D.		12.000 – 12.018 (0.4724 – 0.4731)	12.03 (0.474)
	Claw thickness		5.93 – 6.00 (0.233 – 0.236)	5.9 (0.23)
Shift fork shaft O.D.			11.957 – 11.968 (0.4707 – 0.4712)	11.95 (0.470)
Transmission	Gear I.D.	M5, M6	28.000 – 28.021 (1.1024 – 1.1032)	28.04 (1.104)
		C1	24.000 – 24.021 (0.9449 – 0.9457)	26.04 (1.025)
		C2, C3, C4	31.000 – 31.025 (1.2205 – 1.2215)	31.04 (1.222)
	Gear busing O.D.	M5, M6	27.959 – 27.980 (1.1007 – 1.1016)	27.94 (1.100)
		C2	30.955 – 30.980 (1.2187 – 1.2197)	30.94 (1.218)
		C3, C4	30.950 – 30.975 (1.2185 – 1.2195)	30.93 (1.218)
	Gear-to-bushing clearance	M5, M6	0.020 – 0.062 (0.0008 – 0.0024)	0.10 (0.004)
		C2	0.020 – 0.070 (0.0008 – 0.0028)	0.10 (0.004)
		C3, C4	0.025 – 0.075 (0.0010 – 0.0030)	0.11 (0.004)
	Gear bushing I.D.	M5	24.985 – 25.006 (0.9837 – 0.9845)	25.016 (0.9849)
		C2	27.985 – 28.006 (1.1018 – 1.1026)	28.021 (1.1032)
	Mainshaft O.D.	at M5	24.967 – 24.980 (0.9830 – 0.9835)	24.96 (0.983)
	Countershaft O.D.	at C2	27.967 – 27.980 (1.1011 – 1.1016)	27.96 (1.101)
	Bushing to shaft clearance	M5	0.005 – 0.039 (0.0002 – 0.0015)	0.06 (0.002)
		C2	0.005 – 0.039 (0.0002 – 0.0015)	0.06 (0.002)

CRANKSHAFT/PISTON/CYLINDER SPECIFICATIONS

ITEM				STANDARD	SERVICE LIMIT
Crankshaft	Connecting rod side clearance			0.15 – 0.30 (0.006 – 0.012)	0.35 (0.014)
	Crankpin bearing oil clearance			0.028 – 0.052 (0.0011 – 0.0020)	0.06 (0.002)
	Main journal bearing oil clearance			0.020 – 0.038 (0.0008 – 0.0015)	0.05 (0.002)
	Runout			–	0.05 (0.002)
Piston, piston rings	Piston O.D. at 10 (0.4) from bottom			66.965 – 66.985 (2.6364 – 2.6372)	66.90 (2.634)
	Piston pin bore I.D.			16.002 – 16.008 (0.6300 – 0.6302)	16.02 (0.631)
	Piston pin O.D.			15.994 – 16.000 (0.6297 – 0.6299)	15.98 (0.629)
	Piston-to-piston pin clearance			0.002 – 0.014 (0.0001 – 0.0006)	0.04 (0.002)
	Piston ring end gap	Top	0.10 – 0.20 (0.004 – 0.008)	0.4 (0.02)	
		Second	0.21 – 0.31 (0.008 – 0.012)	0.5 (0.02)	
		Oil (side rail)	0.2 – 0.7 (0.01 – 0.03)	1.0 (0.04)	
	Piston ring-to-ring groove clearance	Top	0.030 – 0.060 (0.0012 – 0.0024)	0.10 (0.004)	
Second		0.015 – 0.050 (0.0006 – 0.0020)	0.08 (0.003)		
Cylinder	I.D.			67.000 – 67.015 (2.6378 – 2.6384)	67.10 (2.642)
	Out of round			–	0.10 (0.004)
	Taper			–	0.10 (0.004)
	Warpage			–	0.10 (0.004)
Cylinder-to-piston clearance				0.015 – 0.050 (0.0006 – 0.0022)	0.10 (0.004)
Connecting rod small end I.D.				16.010 – 16.034 (0.6303 – 0.6313)	16.050 (0.6319)
Connecting rod-to-piston pin clearance				0.010 – 0.040 (0.0004 – 0.0016)	0.070 (0.0028)

GENERAL INFORMATION

FRONT WHEEL/SUSPENSION/STEERING SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Minimum tire tread depth		—	1.5 (0.06)
Cold tire pressure	Driver only	250 kPa (2.50 kgf/cm ² , 36 psi)	—
	Driver and passenger	250 kPa (2.50 kgf/cm ² , 36 psi)	—
Axle runout		—	0.2 (0.01)
Wheel rim runout	Radial	—	2.0 (0.08)
	Axial	—	2.0 (0.08)
Wheel balance weight		—	60 g (2.1oz) max.
Fork	Spring free length	258.8 (10.19)	253.6 (9.98)
	Tube runout	—	0.20 (0.008)
	Recommended fork fluid	Pro Honda Suspension Fluid SS-8	—
	Fluid level	110 (4.3)	—
	Fluid capacity	531 ± 2.5 cm ³ (18.0 ± 0.08 US oz, 18.7 ± 0.09 Imp oz)	—
	Pre-load adjuster initial setting	14 mm (0.6 in) (4th groove from top)	—
	Rebound adjuster initial setting	2-1/2 turns out from full hard	—
Compression adjuster initial setting		2 turns out from full hard	—
Steering head bearing pre-load		9.8 – 15 N·m (1.0 – 1.5 kgf·m)	—

REAR WHEEL/SUSPENSION SPECIFICATIONS

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Minimum tire tread depth			—	2.0 (0.08)
Cold tire pressure	Driver only		290 kPa (2.90 kgf/cm ² , 42 psi)	—
	Driver and passenger		290 kPa (2.90 kgf/cm ² , 42 psi)	—
Axle runout			—	0.2 (0.01)
Wheel rim runout	Radial		—	2.0 (0.08)
	Axial		—	2.0 (0.08)
Wheel balance weight			—	60 g (2.1 oz) max.
Drive chain	Size/link	DID	DID525HV-120ZB	—
		RK	RK525ROZ1-120LJ-FZ	—
	Slack		25 – 35 (1 – 1-3/8)	—
Shock absorber	Spring pre-load adjuster standard position		Position 3	—
	Rebound damping adjuster initial setting		1-3/4 turns out from full hard	—
	Compression damping adjuster initial setting		2 turns out from full hard	—