

2004

Product: 2004 Honda CBR1000RR Motorcycle Service Repair Workshop Manual
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SERVICE MANUAL

CBR1000RR

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HOW TO USE THIS MANUAL

This service manual describes the service procedures for the CBR1000RR-4.

Follow the Maintenance Schedule (Section 4) recommendations to ensure that the vehicle is in peak operating condition and the emission levels are within the standards set by the U.S. Environmental Protection Agency, California Air Resources Board and Transport Canada.

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Sections 1 and 4 apply to the whole motorcycle. Section 3 illustrates procedures for removal/installation of components that may be required to perform service described in the following sections.

Section 5 through 20 describe parts of the motorcycle, grouped according to location.

Find the section you want on this page, then turn to the table of contents on the first page of the section.

Most sections start with an assembly or system illustration, service information and troubleshooting for the section. The subsequent pages give detailed procedure.

If you are not familiar with this motorcycle, read Technical Features in Section 2.

If you don't know the source of the trouble, go to section 22 Troubleshooting.

Your safety, and the safety of others, is very important. To help you make informed decisions we have provided safety messages and other information throughout this manual. Of course, it is not practical or possible to warn you about all the hazards associated with servicing this vehicle.

You must use your own good judgement.

You will find important safety information in a variety of forms including:

- Safety Labels – on the vehicle
- Safety Messages – preceded by a safety alert symbol  and one of three signal words, DANGER, WARNING, or CAUTION. These signal words mean:

▲ DANGER

You WILL be KILLED or SERIOUSLY HURT if you don't follow instructions.

▲ WARNING

You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.

▲ CAUTION

You CAN be HURT if you don't follow instructions.

- Instructions – how to service this vehicle correctly and safely.

As you read this manual, you will find information that is preceded by a **NOTICE** symbol. The purpose of this message is to help prevent damage to your vehicle, other property, or the environment.

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SYMBOLS

The symbols used throughout this manual show specific service procedures. If supplementary information is required pertaining to these symbols, it would be explained specifically in the text without the use of the symbols.

	<p>Replace the part(s) with new one(s) before assembly.</p>
	<p>Use recommended engine oil, unless otherwise specified.</p>
	<p>Use molybdenum oil solution (mixture of the engine oil and molybdenum grease in a ratio of 1 : 1).</p>
	<p>Use multi-purpose grease (Lithium based multi-purpose grease NLGI #2 or equivalent).</p>
	<p>Use molybdenum disulfide grease (containing more than 3% molybdenum disulfide, NLGI #2 or equivalent). Example: Molykote® BR-2 plus manufactured by Dow Corning U.S.A. Multi-purpose M-2 manufactured by Mitsubishi Oil, Japan</p>
	<p>Use molybdenum disulfide paste (containing more than 40% molybdenum disulfide, NLGI #2 or equivalent). Example: Molykote® G-n Paste manufactured by Dow Corning U.S.A. Honda Moly 60 (U.S.A. only) Rocol ASP manufactured by Rocol Limited, U.K. Rocol Paste manufactured by Sumico Lubricant, Japan</p>
	<p>Use silicone grease.</p>
	<p>Apply a locking agent. Use a middle strength locking agent unless otherwise specified.</p>
	<p>Apply sealant.</p>
	<p>Use DOT 4 brake fluid. Use the recommended brake fluid unless otherwise specified.</p>
	<p>Use Fork or Suspension Fluid.</p>

1. GENERAL INFORMATION

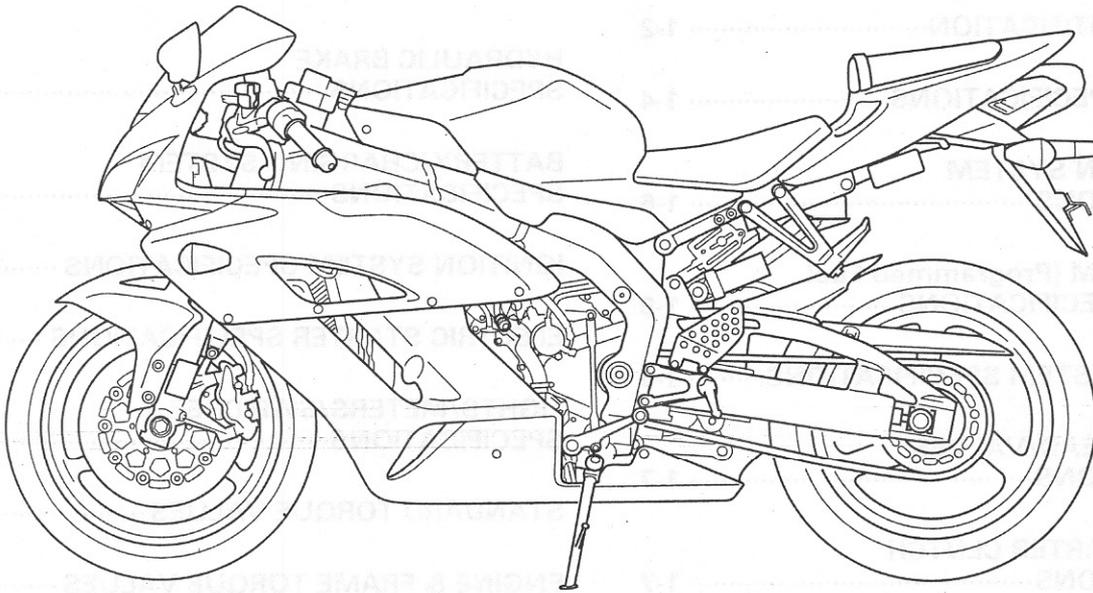
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GENERAL INFORMATION

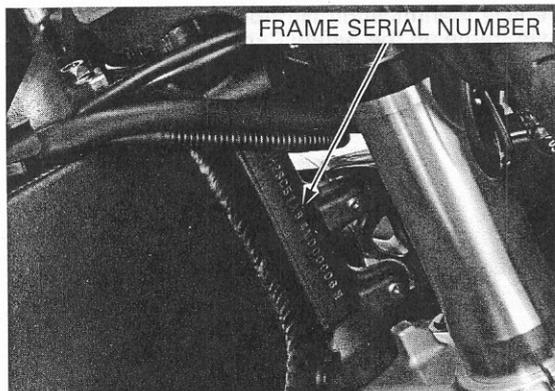
SERVICE RULES

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 1-24).

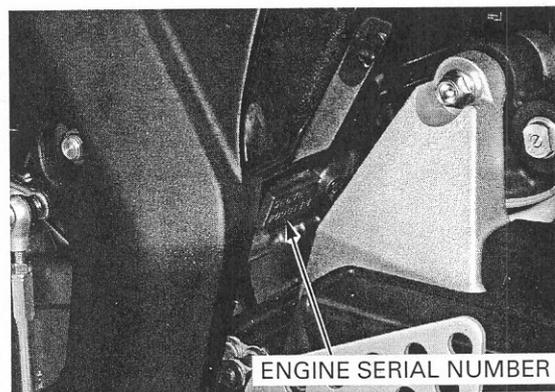
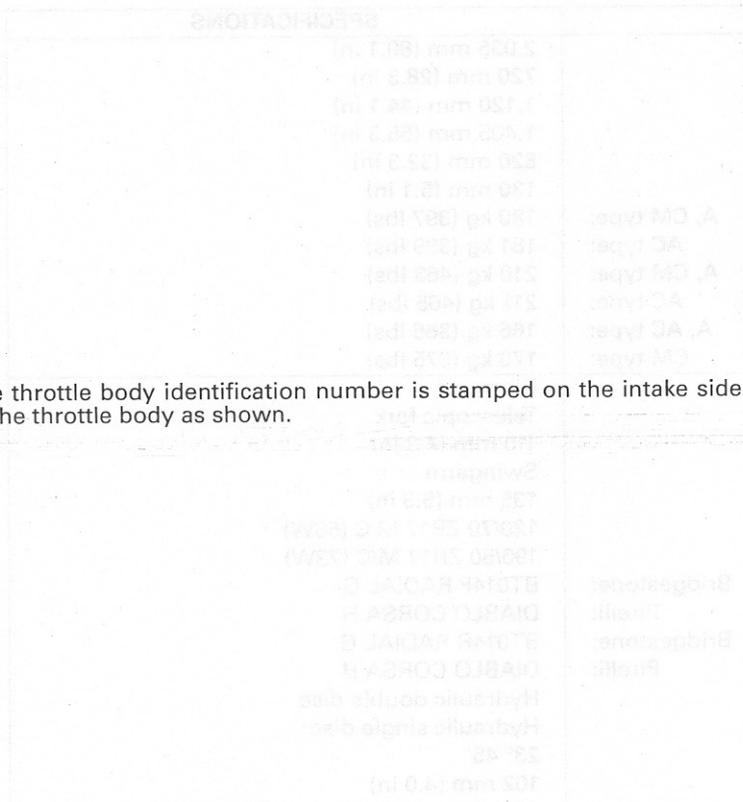
MODEL IDENTIFICATION



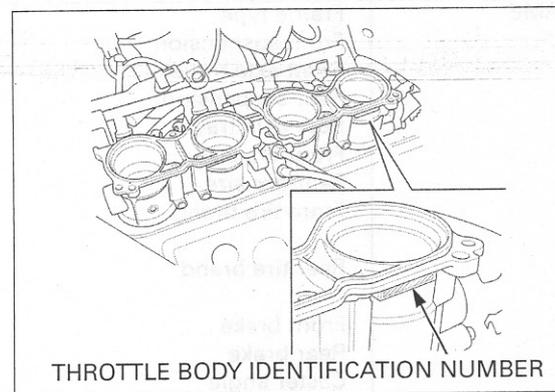
The frame serial number is stamped on the right side of the steering head.



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



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



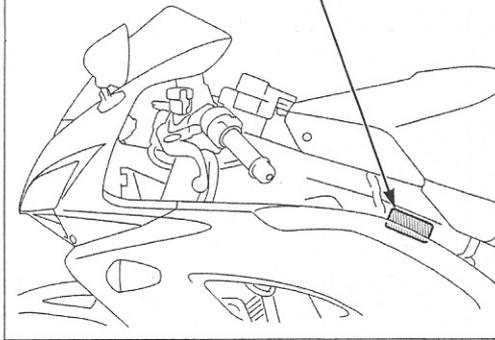
The color label is attached on the rear fender B as shown. When ordering color-coded parts, always specify the designated color code.



GENERAL INFORMATION

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

VEHICLE IDENTIFICATION NUMBER (VIN)



GENERAL SPECIFICATIONS

	ITEM	SPECIFICATIONS
DIMENSIONS	Overall length	2,035 mm (80.1 in)
	Overall width	720 mm (28.3 in)
	Overall height	1,120 mm (44.1 in)
	Wheelbase	1,405 mm (55.3 in)
	Seat height	820 mm (32.3 in)
	Ground clearance	130 mm (5.1 in)
	Dry weight	A, CM type: 180 kg (397 lbs) AC type: 181 kg (399 lbs)
	Curb weight	A, CM type: 210 kg (463 lbs) AC type: 211 kg (465 lbs)
	Maximum weight capacity	A, AC type: 166 kg (366 lbs) CM type: 170 kg (375 lbs)
	FRAME	Frame type
Front suspension		Telescopic fork
Front axle travel		110 mm (4.3 in)
Rear suspension		Swingarm
Rear axle travel		135 mm (5.3 in)
Front tire size		120/70 ZR17 M/C (58W)
Rear tire size		190/50 ZR17 M/C (73W)
Front tire brand		Bridgestone: BT014F RADIAL G Pirelli: DIABLO CORSA H
Rear tire brand		Bridgestone: BT014R RADIAL G Pirelli: DIABLO CORSA H
Front brake		Hydraulic double disc
Rear brake		Hydraulic single disc
Caster angle		23° 45'
Trail length		102 mm (4.0 in)
Fuel tank capacity	18.0 liter (4.76 US gal, 3.96 Imp gal)	

GENERAL INFORMATION

ITEM	SPECIFICATIONS
ENGINE Cylinder arrangement Bore and stroke Displacement Compression ratio Valve train Intake valve opens: at 1 mm (0.04 in) lift Intake valve closes: at 1 mm (0.04 in) lift Exhaust valve opens: at 1 mm (0.04 in) lift Exhaust valve closes: at 1 mm (0.04 in) lift Lubrication system Oil pump type Cooling system Air filtration Engine dry weight Firing order	4 cylinders in-line, inclined 28° from vertical 75.0 x 56.5 mm (2.95 x 2.22 in) 998.4 cm ³ (60.92 cu-in) 11.9: 1 Chain driven, DOHC 18° BTDC 46° ABDC 39° BBDC 11° ATDC Forced pressure and wet sump Trochoid Liquid cooled Paper element 65.8 kg (145.1 lbs) 1 - 2 - 4 - 3
FUEL DELIVERY SYSTEM Type Throttle bore	PGM-FI (Programmed Fuel Injection) 44.0 mm (1.73 in)
DRIVE TRAIN Clutch system Clutch operation system Transmission Primary reduction Final reduction Gear ratio 1st 2nd 3rd 4th 5th 6th Gearshift pattern	Multi-plate, wet Hydraulic operating Constant mesh, 6-speeds 1.604 (77/48T) 2.562 (16/41T) 2.538 (33/13T) 1.941 (33/17T) 1.578 (30/19T) 1.380 (29/21T) 1.250 (25/20T) 1.160 (29/25T) 1 - N - 2 - 3 - 4 - 5 - 6
ELECTRICAL Ignition system Starting system Charging system Regulator/rectifier Lighting system	Computer-controlled digital transistorized with electric advance Electric starter motor Triple phase output alternator SCR shorted/triple phase, full wave rectification Battery

GENERAL INFORMATION

LUBRICATION SYSTEM SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Engine oil capacity	After draining	3.0 liter (3.2 US qt, 2.6 Imp qt)	-
	After oil filter change	3.1 liter (3.3 US qt, 2.7 Imp qt)	-
	After disassembly	3.8 liter (4.0 US qt, 3.3 Imp qt)	-
Recommended engine oil		Pro Honda GN4 or HP4 (without molybdenum additives) 4-stroke oil (U.S.A. and Canada), or Honda 4-stroke oil (Canada only), or an equivalent motor 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 EOP (engine oil pressure) switch		490 kPa (5.0 kgf/cm ² , 71 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	A, CM type	GQA0C
	AC type	GQA0B
Starter valve vacuum difference		20mm Hg
Base throttle valve for synchronization		No. 1
Idle speed		1,200 ± 100 rpm
Throttle grip free play		2 - 4 mm (1/16 - 3/16 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)	Primary injector	10.5 - 14.5 Ω
	Secondary injector	10.5 - 14.5 Ω
PAIR control solenoid valve resistance (at 20°C/68°F)		20 - 24 Ω
CMP (Camshaft position) sensor peak voltage (at 20°C/68°F)		0.7 V minimum
CKP (Crankshaft position) sensor 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	3.15 liter (3.33 US qt, 2.77 Imp qt)
	Reserve tank	0.4 liter (0.42 US qt, 0.35 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)
	Fully open	90 °C (194 °F)
	Valve lift	8 mm (0.3 in) minimum
Recommended antifreeze		High quality ethylene glycol antifreeze containing corrosion protection inhibitors
Standard coolant concentration		1:1 mixture with distilled water

CYLINDER HEAD/VALVES SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Cylinder compression		1,098 kPa (11.2 kgf/cm ² , 159 psi) at 350 rpm	-
Valve clearance		IN 0.16 ± 0.03 (0.006 ± 0.001)	-
		EX 0.30 ± 0.03 (0.012 ± 0.001)	-
Camshaft	Cam lobe height	IN 37.02 – 37.10 (1.457 – 1.461)	37.00 (1.457)
		EX 36.66 – 36.74 (1.443 – 1.446)	36.64 (1.443)
	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 16.1 – 16.4 (0.63 – 0.65)	-
		EX 15.5 – 15.8 (0.61 – 0.62)	-
	Valve seat width	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 39.5 (1.56)	38.7 (1.52)	
	EX 39.5 (1.56)	38.7 (1.52)	
Cylinder head warpage		-	0.10 (0.004)

CLUTCH/STARTER CLUTCH SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Specified clutch fluid		DOT 4 brake fluid	-
Clutch master cylinder	Master cylinder I.D.	12.700 – 12.743 (0.5000 – 0.5017)	12.755 (0.5022)
	Master piston O.D.	12.657 – 12.684 (0.4983 – 0.4994)	12.645 (0.4978)
Clutch	Spring free length	56.8 (2.24)	55.7 (2.19)
	Disc A thickness	3.72 – 3.88 (0.146 – 0.153)	3.4 (0.13)
	Disc B thickness	3.22 – 3.38 (0.127 – 0.133)	2.9 (0.11)
	Plate warpage	-	0.30 (0.012)
Clutch outer guide A (Without ID mark)	I.D.	27.993 – 28.003 (1.1021 – 1.1025)	28.012 (1.1028)
	O.D.	35.004 – 35.012 (1.3781 – 1.3784)	34.994 (1.3777)
Clutch outer guide B (With ID mark)	I.D.	27.993 – 28.003 (1.1021 – 1.1025)	28.012 (1.1028)
	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.	28.000 – 28.021 (1.1024 – 1.1032)	28.030 (1.1035)
	O.D.	34.975 – 34.991 (1.3770 – 1.3776)	34.965 (1.3766)
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		27.980 – 27.990 (1.1016 – 1.1020)	27.96 (1.101)
Mainshaft O.D. at oil pump drive sprocket guide		27.980 – 27.990 (1.1016 – 1.1020)	27.96 (1.101)
Starter idle gear	Gear I.D.	10.013 – 10.035 (0.3942 – 0.3951)	10.05 (0.396)
	Shaft O.D.	9.991 – 10.000 (0.3933 – 0.3937)	9.98 (0.393)
Starter driven gear boss O.D.		45.657 – 45.673 (1.7975 – 1.7981)	45.642 (1.7969)

GENERAL INFORMATION

TRANSMISSION/GEARSHIFT LINKAGE 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	31.000 – 31.025 (1.2205 – 1.2215)
		C1	28.000 – 28.021 (1.1024 – 1.1032)
		C2, C3, C4	33.000 – 33.025 (1.2992 – 1.3002)
	Gear busing O.D.	M5, M6	30.955 – 30.980 (1.2187 – 1.2197)
		C2	32.955 – 32.980 (1.2974 – 1.2984)
		C3, C4	32.950 – 32.975 (1.2972 – 1.2982)
	Gear-to-bushing clearance	M5, M6	0.020 – 0.070 (0.0008 – 0.0028)
		C2	0.020 – 0.070 (0.0008 – 0.0028)
		C3, C4	0.025 – 0.075 (0.0010 – 0.0030)
	Gear bushing I.D.	M5	27.985 – 28.006 (1.1018 – 1.1026)
		C2	29.985 – 30.006 (1.1018 – 1.1026)
	Mainshaft O.D.	at M5	27.967 – 27.980 (1.1011 – 1.1016)
	Countershaft O.D.	at C2	29.967 – 29.980 (1.1798 – 1.1803)
Bushing to shaft clearance	M5	0.005 – 0.039 (0.0002 – 0.0015)	
	C2	0.005 – 0.039 (0.0002 – 0.0015)	

CRANKCASE/CRANKSHAFT/BALANCER/PISTON/CYLINDER SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT	
Crankshaft	Connecting rod side clearance	0.05 – 0.20 (0.002 – 0.008)	0.25 (0.098)	
	Crankpin bearing oil clearance	0.030 – 0.052 (0.0012 – 0.0020)	0.06 (0.002)	
	Main journal bearing oil clearance	0.019 – 0.037 (0.0007 – 0.0015)	0.05 (0.002)	
	Runout	–	0.05 (0.002)	
Piston, piston rings	Piston O.D. at 4.0 (0.16) from bottom	74.960 – 74.980 (2.9512 – 2.9520)	74.895 (2.9486)	
	Piston pin bore I.D.	17.002 – 17.008 (0.6694 – 0.6696)	17.030 (0.6705)	
	Piston pin O.D.	16.994 – 17.000 (0.6690 – 0.6693)	16.980 (0.6685)	
	Piston-to-piston pin clearance	0.002 – 0.014 (0.0001 – 0.0006)	0.04 (0.002)	
	Piston ring end gap	Top	0.22 – 0.32 (0.009 – 0.013)	0.52 (0.020)
		Second	0.48 – 0.63 (0.019 – 0.025)	0.82 (0.032)
		Oil (side rail)	0.2 – 0.7 (0.01 – 0.03)	1.0 (0.04)
Piston ring-to-ring groove clearance	Top	0.050 – 0.085 (0.0020 – 0.0033)	0.125 (0.0049)	
	Second	0.015 – 0.050 (0.0006 – 0.0020)	0.075 (0.0030)	
Cylinder	I.D.	75.000 – 75.015 (2.9528 – 2.9533)	75.15 (2.959)	
	Out of round	–	0.10 (0.004)	
	Taper	–	0.10 (0.004)	
	Warpage	–	0.10 (0.004)	
Cylinder-to-piston clearance		0.020 – 0.055 (0.0008 – 0.0022)	0.10 (0.004)	
Connecting rod small end I.D.		17.030 – 17.042 (0.6705 – 0.6709)	17.048 (0.6712)	
Connecting rod-to-piston pin clearance		0.030 – 0.046 (0.0012 – 0.0018)	0.07 (0.003)	

FRONT WHEEL/SUSPENSION/STEERING SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Minimum tire tread depth		-	1.5 (0.06)
Cold tire pressure	Up to 90 kg (200 lbs) load	250 kPa (2.50 kgf/cm ² , 36 psi)	-
	Up to maximum weight capacity	250 kPa (2.50 kgf/cm ² , 36 psi)	-
Axle runout		-	0.2 (0.008)
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	218.2 (8.59)	213.8 (8.42)
	Fork pipe runout	-	0.20 (0.008)
	Recommended fork fluid	Pro Honda Suspension Fluid, SS-55 or equivalent	-
	Fluid level	90 (3.5)	-
	Fluid capacity	466 ± 2.5 cm ³ (15.8 ± 0.08 US oz, 16.4 ± 0.09 Imp oz)	-
	Pre-load adjuster initial setting	7 turns from minimum	-
	Rebound adjuster initial setting	2 turns out from full hard	-
	Compression adjuster initial setting	2 turns out from full hard	-
Steering head bearing pre-load		12 - 19 N (1.2 - 1.9 kgf)	-

REAR WHEEL/SUSPENSION SPECIFICATIONS

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Minimum tire tread depth			-	2.0 (0.08)
Cold tire pressure	Up to 90 kg (200 lbs) load		290 kPa (2.90 kgf/cm ² , 42 psi)	-
	Up to maximum weight capacity		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	DID50VM2-114YB	-
		RK	RK50GFOZ1-114LJFZ	-
	Slack		25 - 35 (1 - 1-3/8)	-
Shock absorber	Spring pre-load adjuster standard position		Position 4	-
	Rebound damping adjuster initial setting		2 - 1/2 turns out from full hard	-
	Compression damping adjuster initial setting		9 clicks out from full hard	-

GENERAL INFORMATION

HYDRAULIC BRAKE SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT	
Front	Specified brake fluid	DOT 4	-	
	Brake disc thickness	5.0 (0.20)	4.0 (0.16)	
	Brake disc runout	-	0.30 (0.012)	
	Master cylinder I.D.	17.460 – 17.503 (0.6874 – 0.6891)	17.515 (0.6896)	
	Master piston O.D.	17.321 – 17.367 (0.6819 – 0.6837)	17.309 (0.6815)	
	Caliper cylinder I.D.	A	32.080 – 32.130 (1.2630 – 1.2650)	32.140 (1.2654)
		B	30.280 – 30.330 (1.1921 – 1.1941)	30.340 (1.1945)
	Caliper piston O.D.	A	31.967 – 32.000 (1.2585 – 1.2598)	31.957 (1.2581)
B		30.167 – 30.200 (1.1877 – 1.1890)	30.157 (1.1873)	
Rear	Specified brake fluid	DOT 4	-	
	Brake pedal height	75 (3.0)	-	
	Brake disk thickness	5.0 (0.20)	4.0 (0.16)	
	Brake disc runout	-	0.30 (0.012)	
	Master cylinder I.D.	15.870 – 15.913 (0.6248 – 0.6265)	15.925 (0.6270)	
	Master piston O.D.	15.827 – 15.854 (0.6231 – 0.6242)	15.815 (0.6226)	
	Caliper cylinder I.D.	38.180 – 38.230 (1.5031 – 1.5051)	38.24 (1.506)	
	Caliper piston O.D.	38.098 – 38.148 (1.4999 – 1.5019)	38.09 (1.500)	

BATTERY/CHARGING SYSTEM SPECIFICATIONS

ITEM		SPECIFICATIONS	
Battery	Capacity	12V – 8.6 Ah	
	Current leakage	2.0 mA max.	
	Voltage (20°C/68°F)	Fully charged	13.0 – 13.2 V
		Needs charging	Below 12.4 V
	Charging current	Normal	0.9 A/5 – 10 h
Quick		4.5 A/1 h	
Alternator	Capacity	0.344 kW/5,000 rpm	
	Charging coil resistance (20°C/68°F)	0.1 – 1.0 Ω	

IGNITION SYSTEM SPECIFICATIONS

ITEM		SPECIFICATIONS
Spark plug (Iridium)	NGK	IMR9C-9HES
	DENSO	VUH27ES
Spark plug gap		0.80 – 0.90 mm (0.031 – 0.035 in)
Ignition coil peak voltage		100 V minimum
Ignition pulse generator peak voltage		0.7 V minimum
Ignition timing ("F" mark)		8° 12' BTDC at idle

ELECTRIC STARTER SPECIFICATIONS

Unit: mm (in)

ITEM	STANDARD	SERVICE LIMIT
Starter motor brush length	12.0 – 13.0 (0.47 – 0.51)	6.5 (0.26)

LIGHTS/METERS/SWITCHES SPECIFICATIONS

ITEM		SPECIFICATIONS	
Bulbs	Headlight	Hi	12V – 55 W
		Lo	12V – 55 W
	Position light		12V – 5 W
	Brake/tail light		LED
	Front turn signal/running light		12V – 23/8 W x 2 (32/3 cp)
	Rear turn signal light		12V – 23 W x 2
	Instrument light		LED
	Turn signal indicator		LED
	High beam indicator		LED
	Neutral indicator		LED
	Malfunction indicator lamp (MIL)		LED
Fuse	Main fuse		30 A
	PGM-FI fuse		20 A
	Sub fuse		10 A x 4, 20 A x 2
Tachometer peak voltage			10.5 V minimum
ECT sensor resistance		80 °C (176 °F)	2.1 – 2.6 kΩ
		120 °C (248 °F)	0.65 – 0.73 kΩ

NOTE
 1. Apply sealant to the threads.
 2. Apply a locking agent to the threads.
 3. Stake.
 4. Apply oil to the threads and flange surfaces.
 5. U-nut.
 6. ALOC bolt/screw replaces with a new one.
 7. Apply grease to the threads.
 8. Apply molybdenum disulfide oil to the threads and seating surfaces.
 9. CT bolt.

REMARKS	TORQUE N·m (kgf·m, lbf·ft)	THREAD DIA. (mm)	QTY	ITEM
NOTE 1	12 (1.0, 1.0)	12	1	Engine oil drain bolt
NOTE 2	18 (1.5, 2.0)	18	1	Engine oil filter cartridge
	12 (1.0, 1.0)	12	1	Timing hole cap
	12 (1.0, 1.0)	12	1	Spark plug
NOTE 3	12 (1.0, 1.0)	12	1	Oil filter base
NOTE 4	12 (1.0, 1.0)	12	1	Oil filter
NOTE 5	12 (1.0, 1.0)	12	1	Oil pump assembly flange bolt
NOTE 6	12 (1.0, 1.0)	12	1	Engine oil drain base bolt
	See page 1-15	22	1	Oil filter
NOTE 7	12 (1.0, 1.0)	12	1	ECT engine coolant temperature sensor
	12 (1.0, 1.0)	12	1	Throttle body insulator band screw
	12 (1.0, 1.0)	12	1	Service check bolt
	1.8 (0.15, 1.5)	18	4	Starter valve lock nut
	0.9 (0.08, 0.7)	9	4	Starter valve synchronization plate screw
	0.9 (0.08, 0.7)	9	3	Fuel pipe mounting bolt
	0.9 (0.08, 0.7)	9	1	Fast idle wax unit link plate screw
	4.9 (0.4, 3.5)	12	1	Fast idle wax unit mounting screw

GENERAL INFORMATION

STANDARD TORQUE VALUES

FASTENER TYPE	TORQUE N·m (kgf·m, lbf·ft)	FASTENER TYPE	TORQUE N·m (kgf·m, lbf·ft)
5 mm hex bolt and nut	4.9 (0.5, 3.6)	5 mm screw	3.9 (0.4, 2.9)
6 mm hex bolt and nut	9.8 (1.0, 7)	6 mm screw	8.8 (0.9, 6.5)
8 mm hex bolt and nut	22 (2.2, 16)	6 mm flange bolt	9.8 (1.0, 7)
10 mm hex bolt and nut	34 (3.5, 25)	8 mm head, small flange)	
12 mm hex bolt and nut	54 (5.5, 40)	6 mm flange bolt (8 mm head, large flange)	12 (1.2, 9)
		6 mm flange bolt (10 mm head) and nut	12 (1.2, 9)
		8 mm flange bolt and nut	26 (2.7, 20)
		10 mm flange bolt and nut	39 (4.0, 29)

ENGINE & FRAME TORQUE VALUES

- Torque specifications listed below are for important fasteners.
- Others should be tightened to standard torque values listed above.

NOTE:

1. Apply sealant to the threads.
2. Apply a locking agent to the threads.
3. Stake.
4. Apply oil to the threads and flange surface.
5. U-nut.
6. ALOC bolt/screw: replace with a new one.
7. Apply grease to the threads.
8. Apply molybdenum disulfide oil to the threads and seating surface
9. CT bolt

ENGINE

MAINTENANCE:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Spark plug	4	10	16 (1.6, 12)	
Timing hole cap	1	45	18 (1.8, 13)	NOTE 7
Engine oil filter cartridge	1	20	26 (2.7, 20)	NOTE 4
Engine oil drain bolt	1	12	29 (3.0, 22)	

LUBRICATION SYSTEM:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Oil pump assembly flange bolt	3	6	12 (1.2, 9)	NOTE 9
Engine oil drain base bolt	1	6	12 (1.2, 9)	NOTE 2
Oil filter boss	1	20	See page 1-15	

FUEL SYSTEM (Programmed Fuel Injection):

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
ECT (Engine Coolant Temperature)/thermo sensor	1	12	23 (2.3, 17)	
Throttle body insulator band screw	8	5	See page 1-15	
Service check bolt	1	6	12 (1.2, 9)	
Starter valve lock nut	4	10	1.8 (0.18, 1.3)	
Starter valve synchronization plate screw	4	3	0.9 (0.09, 0.7)	
Fuel pipe mounting bolt	3	6	9.8 (1.0, 7)	
Fast idle wax unit link plate screw	1	3	0.9 (0.09, 0.7)	
Fast idle wax unit mounting screw	2	6	4.9 (0.5, 3.6)	

GENERAL INFORMATION

COOLING SYSTEM:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Water pump assembly flange bolt	2	6	12 (1.2, 9)	NOTE 9
Thermostat housing cover flange bolt	2	6	12 (1.2, 9)	NOTE 9

ENGINE REMOVAL/INSTALLATION:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Drive sprocket special bolt	1	10	54 (5.5, 40)	

CYLINDER HEAD/VALVES:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Cylinder head mounting bolt/washer	10	9	51 (5.2, 38)	NOTE 8
Camshaft holder flange bolt	20	6	12 (1.2, 9)	
Cylinder head sealing bolt	2	18	27 (2.8, 20)	NOTE 2
Cylinder head cover bolt	4	6	9.8 (1.0, 7)	
Breather plate flange bolt	3	6	12 (1.2, 9)	NOTE 2
PAIR reed valve cover bolt	4	6	12 (1.2, 9)	NOTE 2
Throttle insulator socket bolt	8	6	12 (1.2, 9)	
Cam sprocket flange bolt	4	7	20 (2.0, 14)	NOTE 2
CMP (camshaft position) sensor rotor bolt	2	6	12 (1.2, 9)	NOTE 2
Cam chain tensioner pivot bolt	1	6	9.8 (1.0, 7)	NOTE 2
Cam chain guide torx bolt	1	6	12 (1.2, 9)	NOTE 2
Exhaust pipe stud bolt	8	8	See page 1-15	

CLUTCH/STARTER CLUTCH:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Clutch center lock nut	1	25	127 (13.0, 94)	NOTE 3, 4
Clutch spring bolt/washer	5	6	12 (1.2, 9)	
Oil pump driven sprocket bolt	1	6	15 (1.5, 11)	NOTE 2
Starter clutch outer bolt	1	10	83 (8.5, 61)	NOTE 4

ALTERNATOR:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Stator wire clamp flange bolt	1	6	12 (1.2, 9)	NOTE 9
Flywheel flange bolt	1	10	103 (10.5, 76)	NOTE 4
Stator mounting socket bolt	4	6	12 (1.2, 9)	

TRANSMISSION/GEARSHIFT LINKAGE:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Transmission holder flange bolt	6	8	29 (3.0, 22)	
Bearing set plate bolt	2	6	12 (1.2, 9)	NOTE 2
Shift drum center socket bolt	1	8	23 (2.3, 17)	NOTE 2
Shift drum stopper arm pivot bolt	1	6	12 (1.2, 9)	
Gearshift spindle return spring pin	1	8	23 (2.3, 17)	
Shift drum bolt/washer	1	6	12 (1.2, 9)	NOTE 2
Shift drum stopper plate flange bolt	1	6	12 (1.2, 9)	NOTE 2

GENERAL INFORMATION

CRANKCASE/CRANKSHAFT/BALANCER/PISTON/CYLINDER:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Crankcase	7 mm bolt	7	18 (1.8, 13)	
	8 mm bolt	6	24 (2.4, 17)	
	9 mm bolt (main journal bolt)	10	See page 13-21	NOTE 4
Lower crankcase sealing bolt	1	22	59 (6.0, 43)	NOTE 2
Lower crankcase socket bolt	1	10	12 (1.2, 9)	NOTE 2
Lower crankcase sealing bolt	1	20	29 (3.0, 22)	NOTE 2
Lower crankcase socket bolt	1	8	23 (2.3, 17)	NOTE 2
Connecting rod bolt (new bolt)	8	8	See page 13-21	NOTE 4
Connecting rod bolt (retightening)	8	8	See page 13-12	NOTE 4

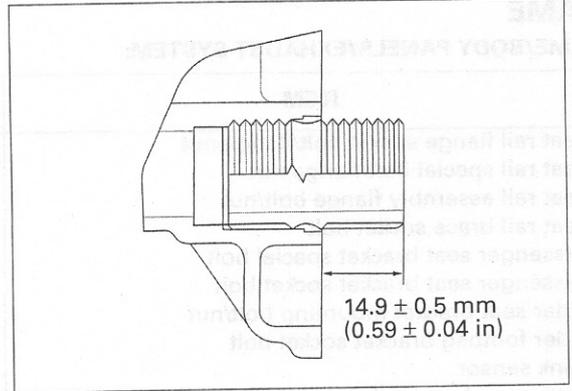
ELECTRIC STARTER:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Starter motor terminal nut	1	6	12 (1.2, 9)	

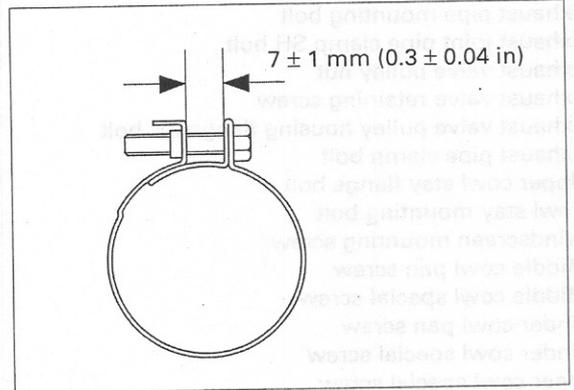
LIGHTS/METERS/SWITCHES:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Oil pressure switch	1	PT 1/8	12 (1.2, 9)	NOTE 1
Oil pressure switch wire terminal screw	1	4	2.0 (0.2, 1.4)	
Neutral switch	1	10	12 (1.2, 9)	

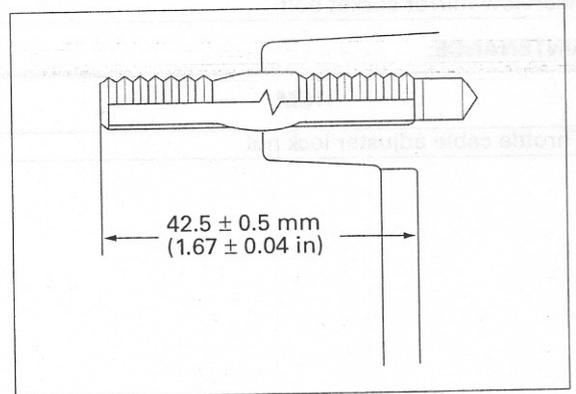
Oil filter boss:



Insulator clamp (Throttle body side):



Exhaust pipe stud bolt:



REMARKS	TORQUE (N·m (kgf·m, lbf·ft))	THREAD (mm (in))	QTY
	55 (6.0, 43)	10	2
	58 (6.0, 43)	10	2
	32 (3.7, 23)	8	2
	28 (2.7, 20)	8	4
	26 (2.7, 20)	8	2
	28 (2.7, 20)	8	2
	0.8 (1.0, 7)	8	4
	37 (3.2, 23)	8	4
	11 (1.1, 8)	8	2
	28 (2.7, 20)	8	4
	12 (1.2, 8)	7	8
		8	1
	3.8 (1.0, 7)	8	1
	4.9 (1.0, 3.3)	8	1
	15 (1.0, 1.1)	4	2
	2.8 (1.0, 7)	8	2
	18 (1.8, 7)	8	1
	32 (3.2, 24)	8	2
	12 (1.2, 8)	8	2
	0.8 (1.0, 0.4)	8	8
	1.9 (1.0, 1.1)	8	2
	3.8 (1.0, 7)	8	2
	1.8 (1.0, 1.1)	8	8
	9.8 (1.0, 8)	8	4
	9.8 (1.0, 7)	8	1
	11 (1.0, 8)	8	8
	6.8 (1.0, 7)	8	4

REMARKS	TORQUE (N·m (kgf·m, lbf·ft))	THREAD (mm (in))	QTY
	24 (1.0, 4.0)	8	2

GENERAL INFORMATION

FRAME

FRAME/BODY PANELS/EXHAUST SYSTEM:

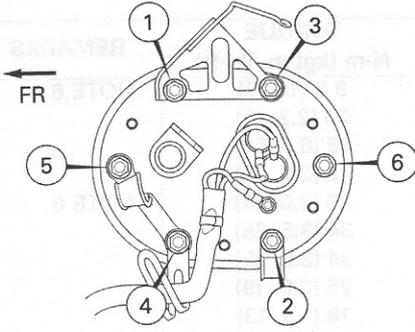
ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Seat rail flange socket bolt/flange nut	2	10	59 (6.0, 43)	
Seat rail special bolt/flange nut	2	10	59 (6.0, 43)	
Seat rail assembly flange bolt/nut	2	8	30 (3.1, 22)	
Seat rail brace socket bolt	4	8	26 (2.7, 20)	
Passenger seat bracket special bolt	2	8	26 (2.7, 20)	
Passenger seat bracket socket bolt	2	8	26 (2.7, 20)	
Rider seat bracket mounting bolt/nut	4	6	9.8 (1.0, 7)	
Rider footpeg bracket socket bolt	4	8	37 (3.8, 27)	
Bank sensor	2	6	11 (1.1, 8)	
Passenger footpeg bracket socket bolt	4	8	26 (2.7, 20)	
Exhaust pipe joint nut	8	7	12 (1.2, 9)	
Exhaust pipe mounting bolt	1	8	23 (2.3, 17)	
Exhaust joint pipe clamp SH bolt	1	6	9.8 (1.0, 7)	
Exhaust valve pulley nut	1	6	4.9 (0.5, 3.6)	
Exhaust valve retaining screw	2	4	1.5 (0.15, 1.1)	
Exhaust valve pulley housing flange SH bolt	2	6	9.8 (1.0, 7)	
Exhaust pipe clamp bolt	1	8	18 (1.8, 13)	
Upper cowl stay flange bolt	2	8	32 (3.3, 24)	
Cowl stay mounting bolt	2	6	12 (1.2, 9)	
Windscreen mounting screw	6	5	0.5 (0.05, 0.4)	
Middle cowl pan screw	2	5	1.5 (0.15, 1.1)	
Middle cowl special screw	2	6	9.8 (1.0, 7)	
Under cowl pan screw	6	5	1.5 (0.15, 1.1)	
Under cowl special screw	4	6	9.8 (1.0, 7)	
Inner cowl special screw	1	6	9.8 (1.0, 7)	
Front fender pan screw	6	6	12 (1.2, 9)	
Rearview mirror socket bolt	4	6	6.8 (0.7, 5.1)	

MAINTENANCE:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Throttle cable adjuster lock nut	2	6	5.4 (0.55, 4.0)	

GENERAL INFORMATION

FUEL SYSTEM (Programmed Fuel Injection):

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE		REMARKS
			N·m (kgf·m, lbf·ft)		
Fuel filler cap socket bolt	3	4	1.8 (0.18, 1.3)		Yellow paint
Fuel feed hose banjo bolt (fuel tank side)	1	12	22 (2.2, 16)		
Fuel hose sealing nut (throttle body side)	1	12	22 (2.2, 16)		
Fuel pump flange nut	6	6	12 (1.2, 9)		
					
Fuel tank mounting bolt (front)	2	8	26 (2.7, 20)		
Fuel tank mounting bolt (rear)	2	6	9.8 (1.0, 7)		
Fuel rail joint hose bolt	2	6	9.8 (1.0, 7)		Yellow paint
Fuel rail joint hose sealing nut	1	12	22 (2.2, 16)		Yellow paint
Air cleaner housing/air funnel pan screw	6	5	4.4 (0.45, 3.3)		
Top air cleaner housing mounting screw	6	5	1.2 (0.12, 0.9)		
Middle air cleaner housing mounting screw	8	5	1.2 (0.12, 0.9)		
IAT sensor mounting screw	2	5	1.2 (0.12, 0.9)		
Air intake duct joint screw	2	5	2.5 (0.25, 1.8)		
Air intake duct cover screw	6	4	1.2 (0.12, 0.9)		
Secondary injector base mounting bolts	5	5	5.4 (0.55, 4.0)		
Bank angle sensor mounting screw	2	4	1.5 (0.15, 1.1)		

COOLING SYSTEM:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE		REMARKS
			N·m (kgf·m, lbf·ft)		
Cooling fan nut	1	5	2.9 (0.3, 2.2)		NOTE 2
Fan motor nut	3	5	4.9 (0.5, 3.6)		
Fan motor bracket mounting bolt	3	6	8.8 (0.9, 6.5)		

ENGINE REMOVAL/INSTALLATION:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE		REMARKS
			N·m (kgf·m, lbf·ft)		
Engine hanger adjusting bolt	2	20	15 (1.5, 11)		
Engine hanger adjusting bolt lock nut	2	20	54 (5.5, 40)		
Rear upper engine hanger nut	1	12	64 (6.5, 47)		See page 8-9
Rear lower engine hanger nut	1	12	64 (6.5, 47)		
Front engine hanger bolt	2	12	64 (6.5, 47)		
Middle engine hanger bolt	2	12	64 (6.5, 47)		

CLUTCH/STARTER CLUTCH:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE		REMARKS
			N·m (kgf·m, lbf·ft)		
Clutch master cylinder oil cup screw	1	4	1.5 (0.15, 1.1)		NOTE 2
Clutch lever pivot bolt	1	6	1.0 (0.1, 0.7)		
Clutch lever pivot nut	1	6	5.9 (0.6, 4.3)		
Clutch switch screw	1	4	1.0 (0.1, 0.7)		
Clutch hose oil bolt	2	10	34 (3.5, 25)		
Clutch master cylinder holder bolt	2	6	12 (1.2, 9)		
Master cylinder bleed valve	1	8	5.9 (0.6, 4.3)		

GENERAL INFORMATION

TRANSMISSION/GEARSHIFT LINKAGE:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE		REMARKS
			N·m (kgf·m, lbf·ft)		
Gearshift pedal pivot bolt	1	8	22 (2.2, 16)		
Gearshift pedal link pinch bolt	1	6	9.8 (1.0, 7)		
Link arm lock nut	2	6	9.8 (1.0, 7)		

FRONT WHEEL/SUSPENSION/STEERING:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE		REMARKS
			N·m (kgf·m, lbf·ft)		
Handlebar weight mounting screw	2	6	9.8 (1.0, 7)		NOTE 6
Handlebar pinch bolt	2	8	26 (2.7, 20)		
Front axle bolt	1	18	78 (8.0, 58)		
Front axle holder pinch bolt	4	8	22 (2.2, 16)		
Front brake disc bolt	12	6	20 (2.0, 14)		NOTE 6
Fork socket bolt	2	10	34 (3.5, 25)		
Fork bolt	2	46	34 (3.5, 25)		
Fork damper lock nut	2	14	25 (2.6, 19)		
Fork compression adjuster plug bolt	2	14	18 (1.8, 13)		
Fork top bridge pinch bolt	2	8	23 (2.3, 17)		
Fork bottom bridge pinch bolt	4	8	23 (2.3, 17)		
Steering damper second arm nut	1	6	12 (1.2, 9)		NOTE 5
Steering damper second arm bolt	1	6	8.8 (0.9, 6.5)		
Steering damper mounting bolt	3	6	8.8 (0.9, 6.5)		
Steering stem adjusting nut	1	26	20 (2.0, 14)		
Steering stem adjusting lock nut	1	26	-		See page 14-42
Steering stem nut	1	24	103 (10.5, 76)		

REAR WHEEL/SUSPENSION:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE		REMARKS
			N·m (kgf·m, lbf·ft)		
Rear axle nut	1	22	113 (11.5, 83)		NOTE 5
Rear brake disc bolt	4	8	42 (4.3, 31)		NOTE 6
Final driven sprocket nut	6	10	64 (6.5, 47)		NOTE 5
Rear shock absorber upper mounting nut	1	10	44 (4.5, 33)		NOTE 5
Rear shock absorber lower mounting nut	1	10	44 (4.5, 33)		NOTE 5
Shock link-to-frame pivot nut	1	10	44 (4.5, 33)		NOTE 5
Shock arm-to-shock link nut	1	10	44 (4.5, 33)		NOTE 5
Shock arm-to-swingarm nut	1	10	44 (4.5, 33)		NOTE 5
Drive chain case flange bolt	3	6	12 (1.2, 9)		
Swingarm pivot adjusting bolt	1	36	15 (1.5, 11)		
Swingarm pivot adjusting bolt lock nut	1	36	64 (6.5, 47)		
Swingarm pivot nut	1	22	113 (11.5, 83)		
Drive chain slider bolt	3	6	8.8 (0.9, 6.5)		NOTE 2

GENERAL INFORMATION

HYDRAULIC BRAKE:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Brake hose oil bolt	5	10	34 (3.5, 25)	
Rear brake caliper pad pin	1	10	18 (1.8, 13)	
Rear caliper bleed valve	1	8	5.9 (0.6, 4.3)	
Rear brake caliper slide pin bolt	1	12	27 (2.8, 20)	
Rear brake caliper mounting bolt	1	8	23 (2.3, 17)	
Rear brake hose clamp bolt	1	5	3.9 (0.4, 2.9)	
Rear master cylinder push rod joint nut	1	8	18 (1.8, 13)	NOTE 2
Rear brake reservoir hose joint screw	1	4	1.5 (0.15, 1.1)	
Rear master cylinder reservoir cap screw	2	4	1.5 (0.15, 1.1)	
Rear master cylinder reservoir mounting bolt	1	6	12 (1.2, 9)	
Rear master cylinder mounting bolt	2	6	9.8 (1.0, 7)	
Brake pedal pivot bolt	1	8	18 (1.8, 13)	
Front brake caliper mounting bolt	4	10	45 (4.6, 33)	NOTE 6
Front brake caliper assembly bolt	8	8	23 (2.3, 17)	NOTE 2
Front brake caliper pad pin	2	10	16 (1.6, 12)	
Front caliper bleed valve	2	8	7.8 (0.8, 5.8)	
Front brake hose clamp	1	6	8.8 (0.9, 6.5)	
Front brake hose 3-way joint bolt	1	6	9.8 (1.0, 7)	
Front brake hose clamp (left side)	1	6	9.8 (1.0, 7)	
Front master cylinder reservoir cap screw	2	4	1.5 (0.15, 1.1)	
Front master cylinder reservoir stay bolt	1	6	12 (1.2, 9)	
Front brake light switch screw	1	4	1.0 (0.1, 0.7)	
Front master cylinder reservoir mounting nut	1	6	5.9 (0.6, 4.3)	NOTE 5
Front brake lever pivot bolt	1	6	1.0 (0.1, 0.7)	
Front brake lever pivot nut	1	6	5.9 (0.6, 4.3)	
Front master cylinder bleed valve	1	8	5.9 (0.6, 4.3)	
Front master cylinder holder bolt	2	6	12 (1.2, 9)	

LIGHTS/METERS/SWITCHES:

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Ignition switch mounting one-way bolt	2	8	26 (2.7, 20)	
Right handlebar switch screw	2	4	0.9 (0.09, 0.7)	
Combination meter assembly screw	3	5	1.0 (0.1, 0.7)	
Side stand switch special bolt	1	6	9.8 (1.0, 7)	NOTE 6

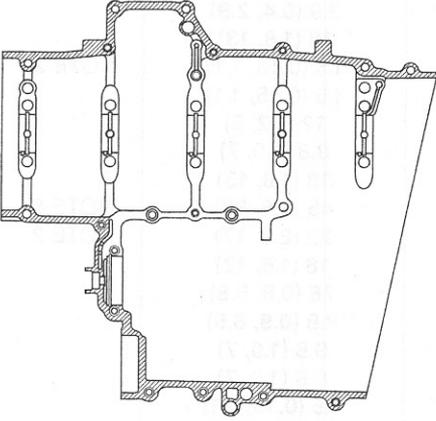
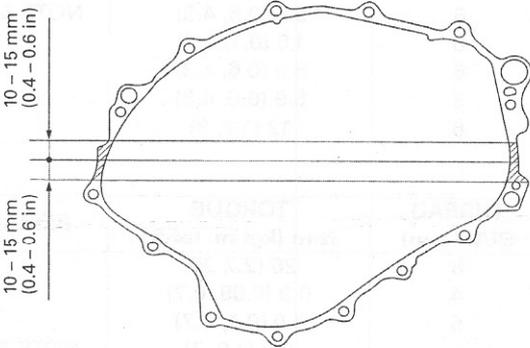
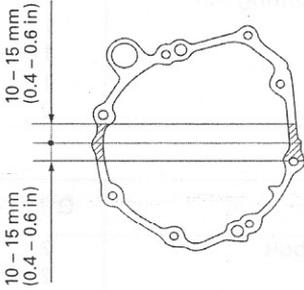
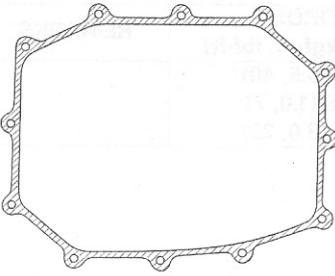
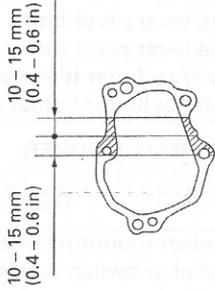
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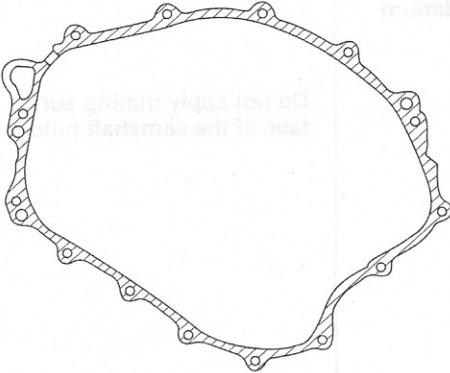
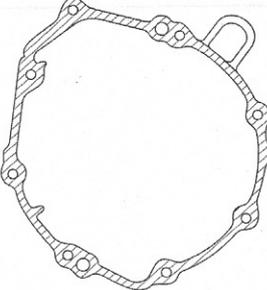
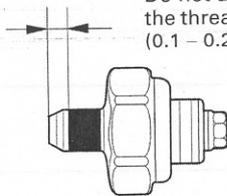
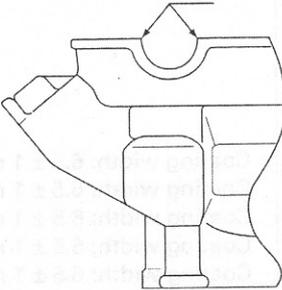
ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Side stand socket bolt	2	10	54 (5.5, 40)	
Side stand pivot bolt	1	10	9.8 (1.0, 7)	
Side stand pivot nut	1	10	29 (3.0, 22)	

GENERAL INFORMATION

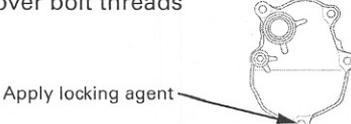
LUBRICATION & SEAL POINTS

ENGINE

LOCATION	MATERIAL	REMARKS
<p data-bbox="76 296 363 323">Crankcase mating surface</p>  	<p data-bbox="730 296 976 375">Liquid sealant (Three Bond 1207B or equivalent)</p> 	
<p data-bbox="76 1239 327 1265">Oil pan mating surface</p> 		

LOCATION	MATERIAL	REMARKS
<p data-bbox="153 196 564 227">Right crankcase cover mating surface</p>  <p data-bbox="156 631 509 663">Alternator cover mating surface</p>  <p data-bbox="164 1015 462 1046">Oil pressure switch threads</p> <p data-bbox="337 1046 588 1118">Do not apply sealant to the thread head 3 – 4 mm (0.1 – 0.2 in)</p> 	<p data-bbox="799 186 1050 269">Liquid sealant (Three Bond 1207B or equivalent)</p>	
<p data-bbox="164 1274 556 1305">Cylinder head semi-circular cut-out</p> 	<p data-bbox="815 1274 909 1305">Sealant</p>	

GENERAL INFORMATION

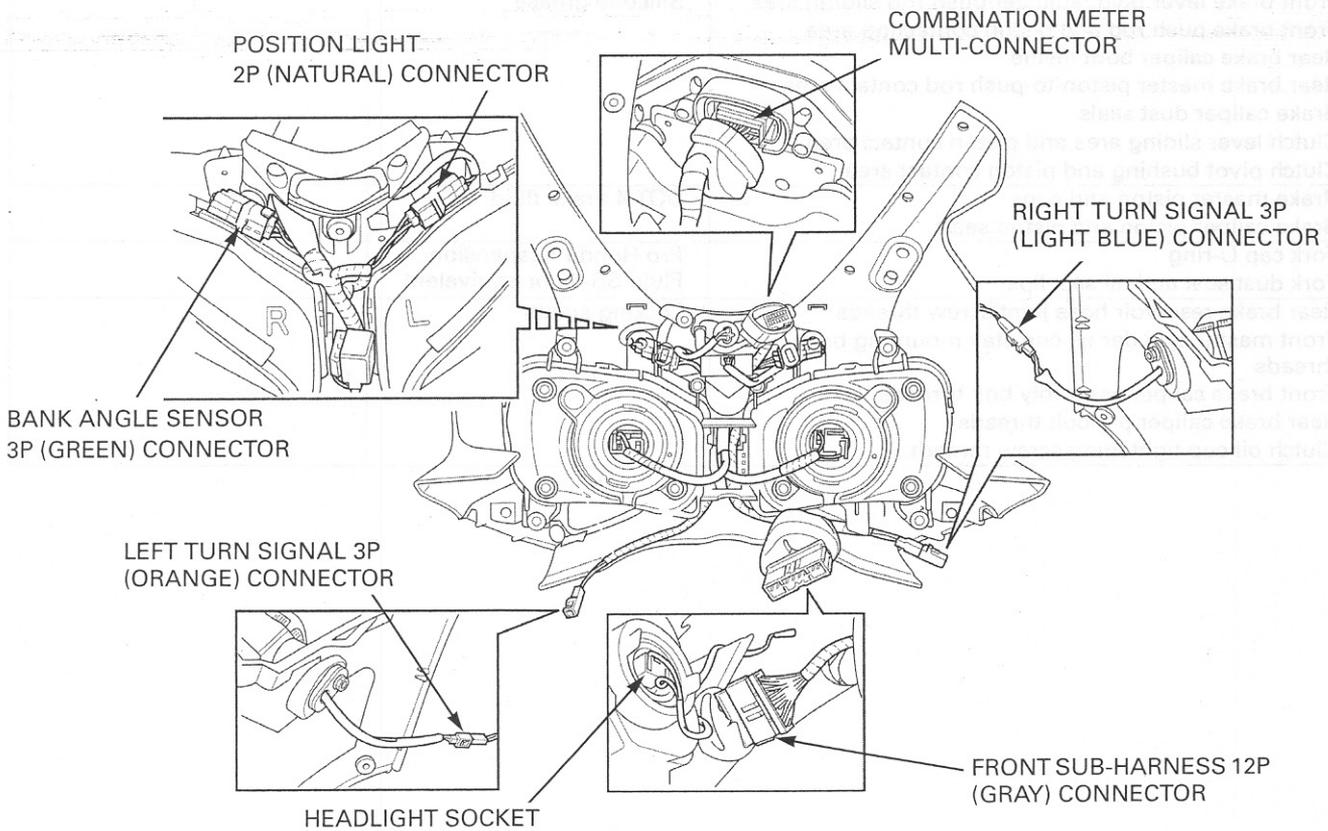
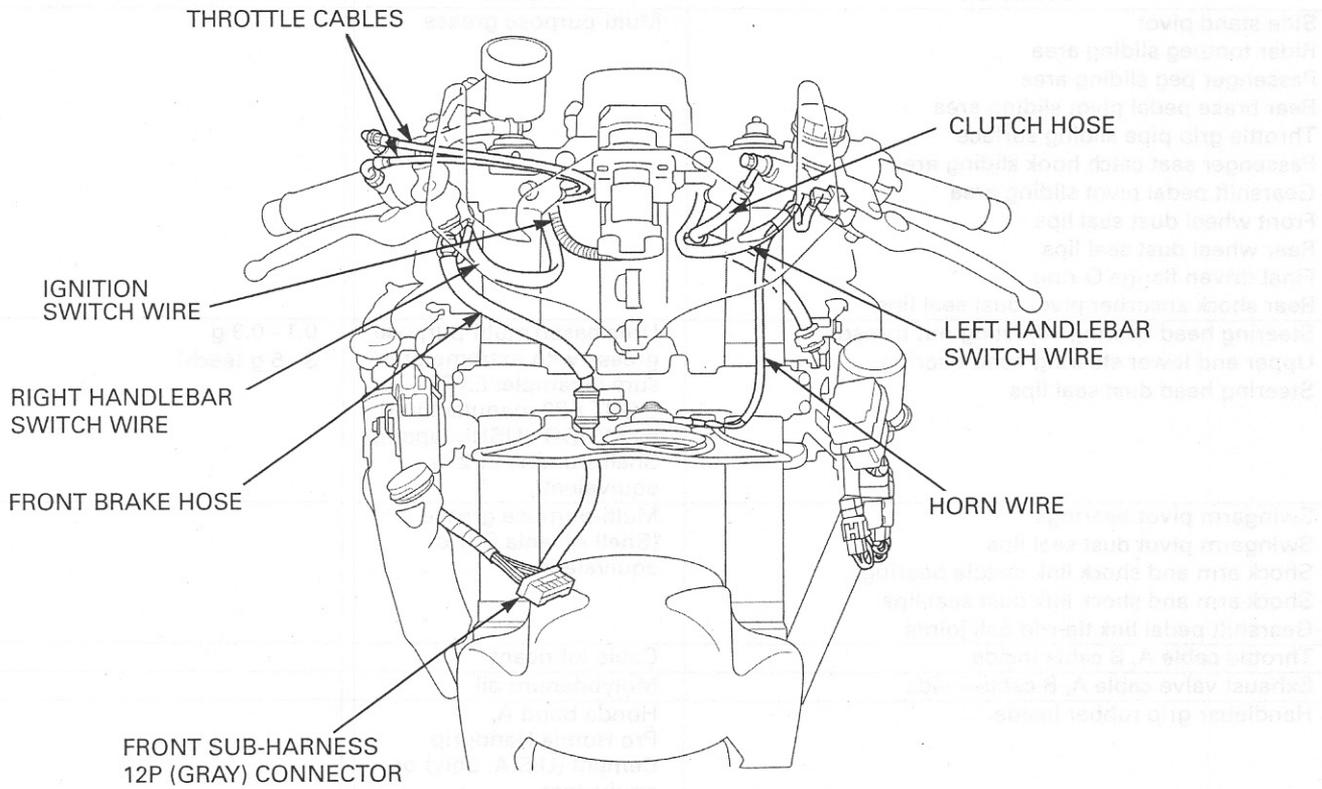
LOCATION	MATERIAL	REMARKS
<p>Main journal bearing surface Piston pin sliding surface Connecting rod bearing surface Connecting rod small end inner surface Crankshaft thrust surface Camshaft lobes/journals and thrust surface</p> <p>Valve stem (valve guide sliding surface) Valve lifter outer sliding surface Water pump shaft thrust washer sliding surface Clutch outer/primary driven gear sliding surface Clutch outer guide sliding surface Oil pump drive sprocket and collar sliding surface M3/4, C5, C6 shifter gear (shift fork grooves) Starter reduction gear shaft sliding surface Starter idle gear shaft sliding surface Cylinder head special bolt (after removing anti-rust oil additive)</p>	<p>Molybdenum disulfide oil (a mixture of 1/2 engine oil and 1/2 molybdenum disulfide grease)</p>	<p>Do not apply mating surface of the camshaft holder</p>
<p>Clutch joint piece sliding surface Clutch lifter rod outer area Piston and piston ring sliding area Oil strainer packing Clutch disc surface Starter one-way clutch sliding surface Flywheel bolt threads and seating surface Clutch center lock nut threads and seating surface Oil filter cartridge threads and O-ring Camshaft holder bolt threads and seating surface Starter clutch outer bolt threads and seating surface Connecting rod bolt threads and seating surface Each gear teeth and rotating surface Each bearing Each O-ring Other rotating area and sliding surface</p>	<p>Engine oil</p>	
<p>Timing hole cap threads Balancer damper rubber fitting area Each oil seal lips</p>	<p>Multi-purpose grease</p>	
<p>Lower crankcase 22 mm sealing bolt threads Lower crankcase 20 mm sealing bolt threads Lower crankcase 10 mm sealing bolt threads Lower crankcase 8 mm sealing bolt threads Cam chain guide A bolt threads CMP (Camshaft position) sensor rotor bolt threads Cylinder head sealing bolt threads Cylinder head cover breather joint threads Oil orifice bolt threads Oil pump driven sprocket bolt threads Shift drum bearing set plate bolt threads Oil filter boss stud thread Mainshaft/countershaft bearing set plate bolt threads Cam sprocket bolt threads Cylinder head cover breather plate bolt threads Shift drum center bolt threads Cam chain tensioner pivot bolt threads Spindle plate tightening bolt threads Shift drum stopper plate bolt threads Oil pan drain base bolt threads Gearshift spindle cover bolt threads</p> <div style="text-align: right;">  <p>Apply locking agent</p> </div>	<p>Locking agent</p>	<p>Coating width: 6.5 ± 1 mm Coating width: 6.5 ± 1 mm</p>

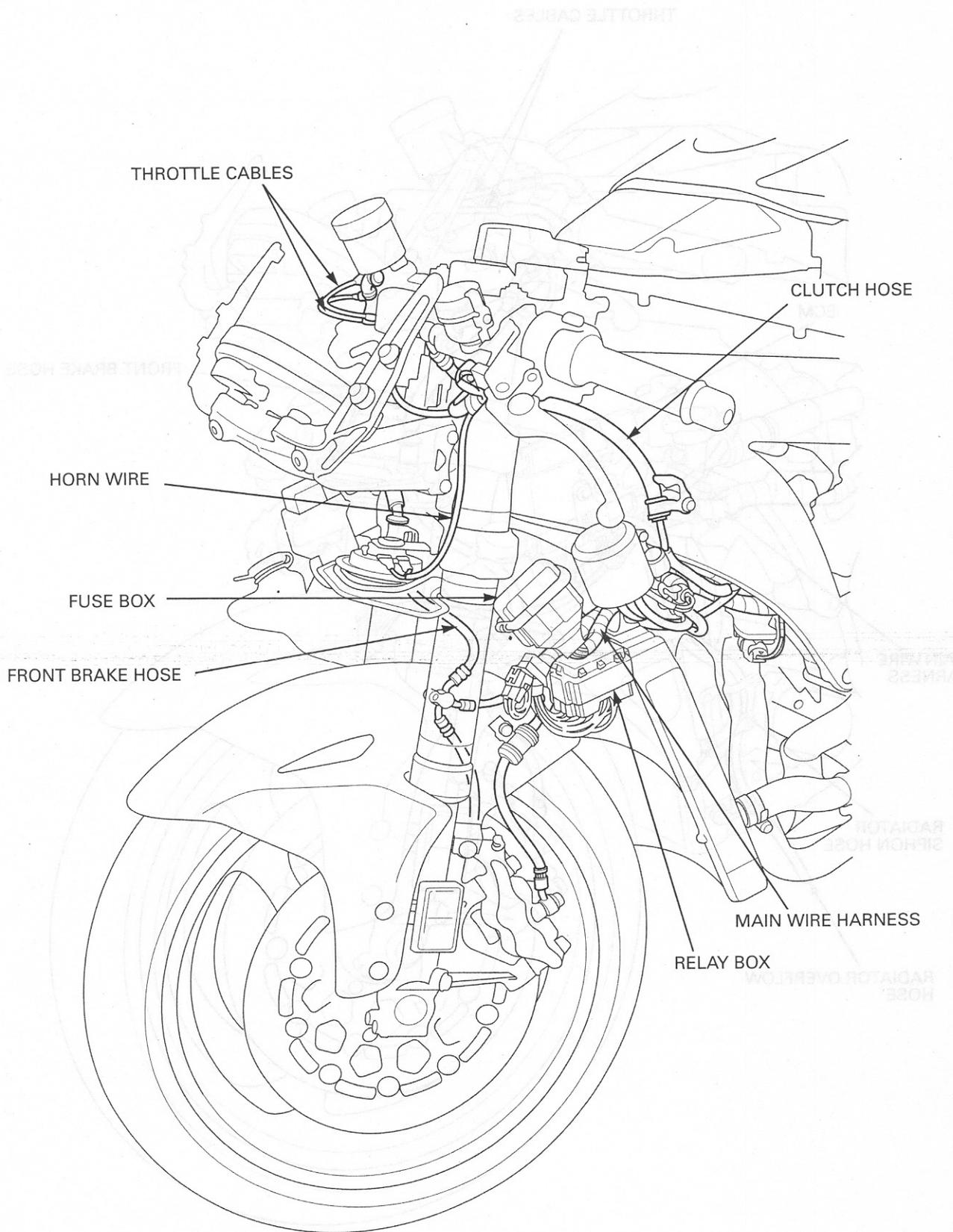
FRAME

LOCATION	MATERIAL	REMARKS
Side stand pivot Rider footpeg sliding area Passenger peg sliding area Rear brake pedal pivot sliding area Throttle grip pipe sliding surface Passenger seat catch hook sliding area Gearshift pedal pivot sliding area Front wheel dust seal lips Rear wheel dust seal lips Final driven flange O-ring Rear shock absorber pivot dust seal lips	Multi-purpose grease	
Steering head bearing adjusting nut threads Upper and lower steering head bearing Steering head dust seal lips	Urea based multi-purpose grease with extreme pressure (example: EXCELIGHT EP2 manufactured by KYODO YUSHI, Japan), Shell stamina EP2 or equivalent	0.1 - 0.3 g 3 - 5 g (each)
Swingarm pivot bearings Swingarm pivot dust seal lips Shock arm and shock link needle bearings Shock arm and shock link dust seal lips Gearshift pedal link tie-rod ball joints	Multi-purpose grease (Shell Alvania EP2 or equivalent)	
Throttle cable A, B cable inside	Cable lubricant	
Exhaust valve cable A, B cable inside	Molybdenum oil	
Handlebar grip rubber inside	Honda bond A, Pro Honda Handgrip Cement (U.S.A. only) or equivalent	
Front brake lever pivot/adjuster/push rod sliding area Front brake push rod and piston contacting area Rear brake caliper boot inside Rear brake master piston-to-push rod contact area Brake caliper dust seals Clutch lever sliding area and piston contact area Clutch pivot bushing and piston contact area	Silicone grease	
Brake master piston and cups Brake caliper piston and piston seals	DOT 4 brake fluid	
Fork cap O-ring Fork dust seal and oil seal lips	Pro Honda Suspension Fluid SS-55 or equivalent	
Rear brake reservoir hose joint screw threads Front master cylinder oil cup stay mounting bolt threads Front brake caliper assembly bolt threads Rear brake caliper pin bolt threads Clutch oil cup tightening screw threads	Locking agent	

GENERAL INFORMATION

CABLE & HARNESS ROUTING





GENERAL INFORMATION

