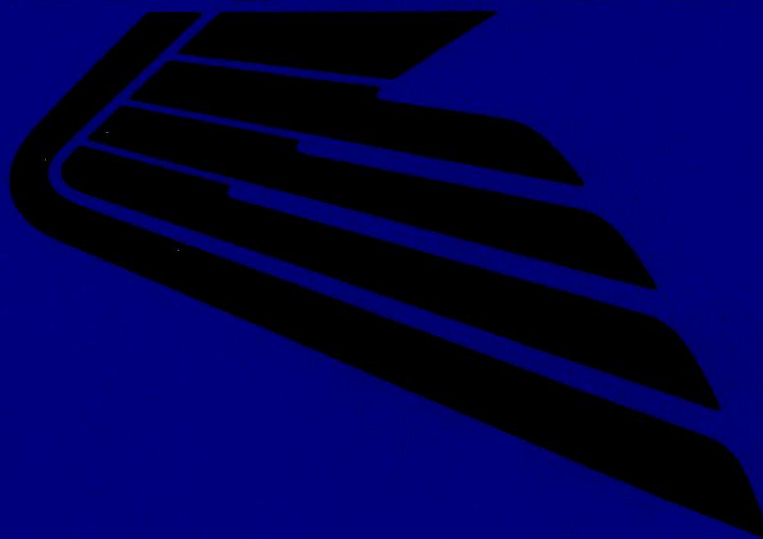




HONDA

HONDA



CB1 100SF_Y

IMPORTANT SAFETY NOTICE

▲ WARNING *Indicates a strong possibility of severe personal injury or death if instructions are not followed.*

CAUTION: *Indicates a possibility of equipment damage if instructions are not followed.*

NOTE: Gives helpful information.

Detailed descriptions of standard workshop procedures, safety principles and service operations are not included. It is important to note that this manual contains some warnings and cautions against some specific service methods which could cause **PERSONAL INJURY** to service personnel or could damage a vehicle or render it unsafe. Please understand that those warnings could not cover all conceivable ways in which service, whether or not recommended by Honda, might be done or of the possibly hazardous consequences of each conceivable way, nor could Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda, *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized by the service methods or tools selected.

TYPE CODE

- Throughout this manual, the following abbreviations are used to identify individual model.

CODE	AREA TYPE	CODE	AREA TYPE
ED	EUROPEAN DIRECT SALES (Austria, Netherlands, Spain, Switzerland, Portugal, Belgium, Canary ilands, Hungary, Sweden, Finland, Denmark, Norway)	E	U.K.
		F	FRANCE

HOW TO USE THIS MANUAL

This service manual describes the service procedures for the CB1100SF.

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operating condition.

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

Sections 1 and 3 apply to the whole motorcycle. Section 2 illustrates procedures for removal/installation of components that may be required to perform service described in the following sections. Sections 4 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 don't know the source of the trouble, go to section 22 Troubleshooting.

ALL INFORMATION, ILLUSTRATIONS, DIRECTIONS AND SPECIFICATIONS INCLUDED IN THIS PUBLICATION ARE BASED ON THE LATEST PRODUCT INFORMATION AVAILABLE AT THE TIME OF APPROVAL FOR PRINTING. HONDA MOTOR CO., LTD. RESERVES THE RIGHT TO MAKE CHANGES AT ANY TIME WITHOUT NOTICE AND WITHOUT INCURRING ANY OBLIGATION WHATEVER. NO PART OF THIS PUBLICATION MAY BE REPRODUCED WITHOUT WRITTEN PERMISSION. THIS MANUAL IS WRITTEN FOR PERSONS WHO HAVE ACQUIRED BASIC KNOWLEDGE OF MAINTENANCE ON HONDA MOTORCYCLES, MOTOR SCOOTERS OR ATVS.












HONDA MOTOR CO., LTD.
SERVICE PUBLICATION OFFICE

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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.

	Replace the part(s) with new one(s) before assembly.
	Use recommended engine oil, unless otherwise specified.
	Use molybdenum oil solution (mixture of the engine oil and molybdenum grease in a ratio of 1 : 1).
	Use multi-purpose grease (Lithium based multi-purpose grease NLGI # 2 or equivalent).
	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
	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
	Use silicone grease.
	Apply a locking agent. Use a middle strength locking agent unless otherwise specified.
	Apply sealant.
	Use DOT 4 brake fluid. Use the recommended brake fluid unless otherwise specified.
	Use Fork or Suspension Fluid.

1. GENERAL INFORMATION

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GENERAL SAFETY

CARBON MONOXIDE

If the engine must be running to do some work, make sure the area is well ventilated. Never run the engine in an enclosed area.

▲WARNING

The exhaust contains poisonous carbon monoxide gas that can cause loss of consciousness and may lead to death.

Run the engine in an open area or with an exhaust evacuation system in an enclosed area.

GASOLINE

Work in a well ventilated area. Keep cigarettes, flames or sparks away from the work area or where gasoline is stored.

▲WARNING

Gasoline is extremely flammable and is explosive under certain conditions. KEEP OUT OF REACH OF CHILDREN.

HOT COMPONENTS

▲WARNING

Engine and exhaust system parts become very hot and remain hot for some time after the engine is run. Wear insulated gloves or wait until the engine and exhaust system have cooled before handling these parts.

USED ENGINE OIL

▲WARNING

Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil. KEEP OUT OF REACH OF CHILDREN.

BRAKE DUST

Never use an air hose or dry brush to clean the brake assemblies.

BRAKE FLUID

CAUTION:

Spilling fluid on painted, plastic or rubber parts will damage them. Place a clean shop towel over these parts whenever the system is serviced. KEEP OUT OF REACH OF CHILDREN.

GENERAL INFORMATION

COOLANT

Under some conditions, the ethylene glycol in engine coolant is combustible and its flame is not visible. If the ethylene glycol does ignite, you will not see any flame, but you can be burned.

▲WARNING

- **Avoid spilling engine coolant on the exhaust system or engine parts. They may be hot enough to cause the coolant to ignite and burn without a visible flame.**
- **Coolant (ethylene glycol) can cause some skin irritation and is poisonous if swallowed. KEEP OUT OF REACH OF CHILDREN.**
- **Do not remove the radiator cap when the engine is hot. The coolant is under pressure and could scald you.**
- **Keep hands and clothing away from the cooling fan, as it starts automatically.**

CAUTION:

Using coolant with silicate inhibitors may cause premature water of water pump seals or brockage of radiator passages. Using tap water may cause engine damage.

SERVICE RULES

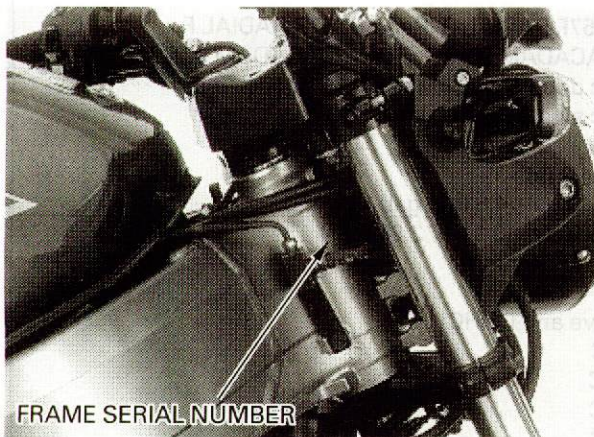
1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalents. Parts that don't meet HONDA's design specifications may cause damage to the motorcycle.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing 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 show on pages 1-24 through 1-35, Cable and Harness Routing.

BATTERY HYDROGEN GAS & ELECTROLYTE

▲WARNING

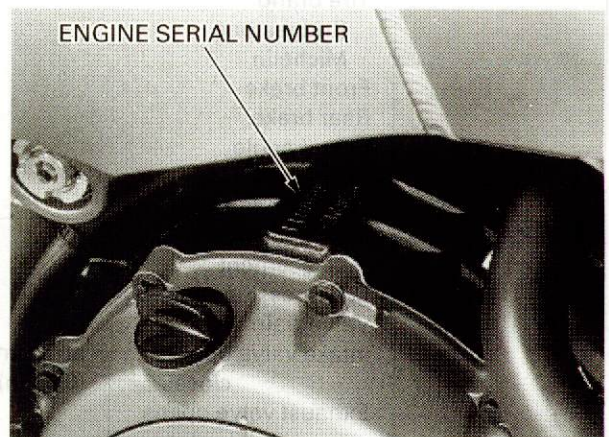
- **The battery gives off explosive gases; keep sparks, flames and cigarettes away. Provide adequate ventilation when charging.**
- **The battery contains sulfuric acid (electrolyte). Contact with skin or eyes may cause severe burns. Wear protective clothing and a face shield.**
 - **If electrolyte gets on your skin, flush with water.**
 - **If electrolyte gets in your eyes, flush with water for at least 15 minutes and call a physician immediately.**
- **Electrolyte is poisonous.**
 - **If swallowed, drink large quantities of water or milk and follow with milk of magnesia or vegetable oil and call a physician. KEEP OUT OF REACH OF CHILDREN.**

MODEL IDENTIFICATION



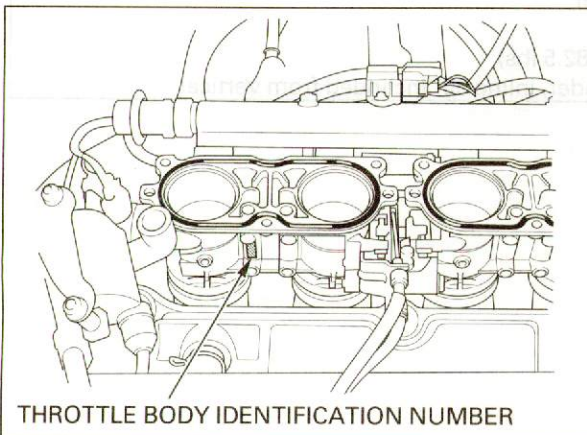
FRAME SERIAL NUMBER

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



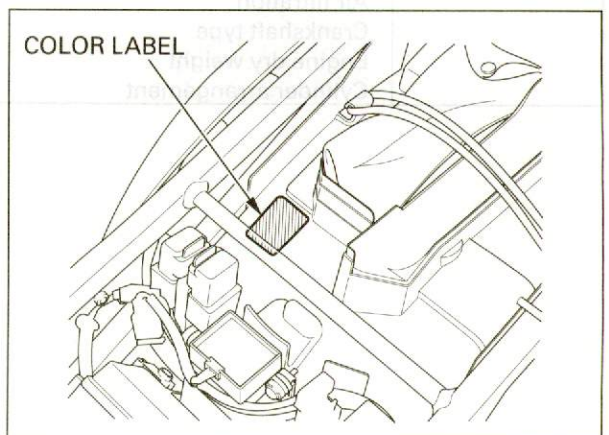
ENGINE SERIAL NUMBER

(2) The engine serial number is stamped on the right side of the upper crankcase.



THROTTLE BODY IDENTIFICATION NUMBER

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



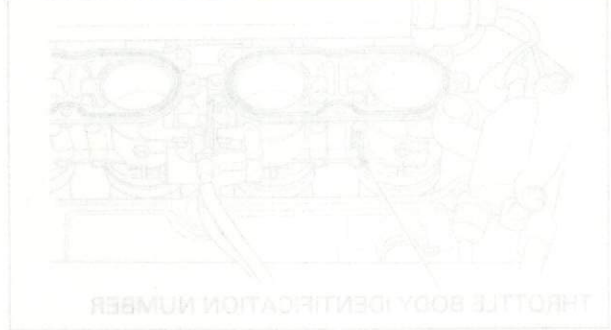
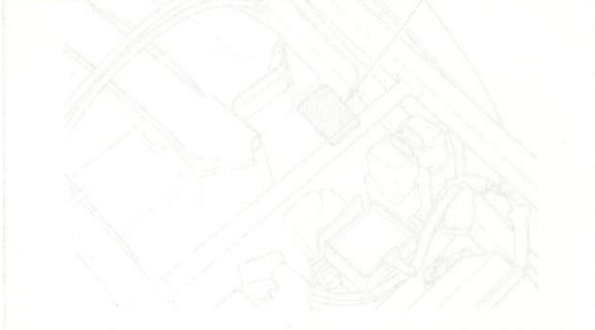
COLOR LABEL

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

GENERAL INFORMATION

SPECIFICATIONS

GENERAL		
	ITEM	SPECIFICATIONS
DIMENSIONS	Overall length Overall width Overall height Wheelbase Seat height Footpeg height Ground clearance Dry weight Curb weight Maximum weight capacity	2,145 mm (84.4 in) 750 mm (29.5 in) 1,115 mm (43.9 in) 1,500 mm (59.1 in) 795 mm (31.3 in) 383 mm (15.1 in) 140 mm (5.5 in) 222 kg (489 lbs) 254 kg (560 lbs) 188 kg (415 lbs)
FRAME	Frame type Front suspension Front wheel travel Rear suspension Rear wheel travel Rear damper Front tire size Rear tire size Tire brand Bridgestone Michelin Front brake Rear brake Caster angle Trail length Fuel tank capacity	Diamond Telescopic fork 108 mm (4.3 in) Swingarm 140 mm (5.5 in) Nitrogen gas filled damper 120/70 ZR17 (58W) /Radial 180/55 ZR17 (73W) /Radial Front: BT57F RADIAL G /Rear: BT57R RADIAL F Front: MACADAM 90X G /Rear: MACADAM 90X M Hydraulic double disc brake with 3 pots caliper Hydraulic single disc brake with 3 pots caliper 25.5° 102 mm (4.0 in) 22 l (5.8 US gal , 4.8 Imp gal)
ENGINE	Bore and stroke Displacement Compression ratio Valve train Intake valve opens — at 1 mm closes — (0.04 in) lift Exhaust valve opens — closes — Lubrication system Oil pump type Cooling system Air filtration Crankshaft type Engine dry weight Cylinder arrangement	79.0 × 58.0 mm (3.11 × 2.28 in) 1,137 cm ³ (69.4 cu-in) 11.0 : 1 Chain drive and DOHC 15° BTDC 35° ABDC 40° BBDC 10° ATDC Forced pressure and wet sump Trochoid/double rotor Liquid cooled Paper filter Unit type 82.8 kg (182.5 lbs) Four cylinder, inline 30° inclined from vertical



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

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

GENERAL INFORMATION

GENERAL (Cont'd)		SPECIFICATIONS
SERVICE LIMIT	ITEM	
CARBURETION	Type	PGM-FI (Programmed Fuel Injection)
	Throttle bore	42 mm (1.7 in)
DRIVE TRAIN	Clutch system	Multi-plate, wet
	Clutch operation system	Cable operated type
	Transmission	Constant mesh, 5-speed
	Primary reduction	1.571 (88/56)
	Final reduction	2.529 (43/17)
	Gear ratio	1st 2.769 (36/13)
		2nd 1.938 (31/16)
		3rd 1.556 (28/18)
		4th 1.316 (25/19)
		5th 1.167 (28/24)
	Gearshift pattern	Left foot operated return system, 1-N-2-3-4-5
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

Unit: mm (in)

LUBRICATION SYSTEM				
ITEM			STANDARD	SERVICE LIMIT
Engine oil capacity	At draining		3.8 ℓ (4.0 US qt , 3.3 Imp qt)	_____
	At disassembly		4.6 ℓ (4.9 US qt , 4.0 Imp qt)	_____
	At oil filter change		3.9 ℓ (4.1 US qt , 3.4 Imp qt)	_____
Recommended engine oil			HONDA 4-stroke oil or equivalent motor oil API service classification SE, SF or SG Viscosity: SAE 10W-40	_____
Oil pressure at oil pressure switch			490 kPa (5.0 kgf/cm ² , 71 psi) at 5,400 min ⁻¹ (rpm)/(80 °C/176 °F)	_____
Oil pump rotor	Feed pump	Tip clearance	0.15 (0.006) max.	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)	0.12 (0.005)
	Cooler pump	Tip clearance	0.15 (0.006) max.	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)	0.12 (0.005)

FUEL SYSTEM (Programmed Fuel Injection)		
ITEM		SPECIFICATIONS
Throttle body identification number		GQ41A
Starter valve vacuum difference		20 mm Hg
Base throttle valve for synchronization		No. 3
Idle speed		1,100 ± 100 min ⁻¹ (rpm)
Throttle grip free play		2 – 6 mm (1/16 – 1/4 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 injector resistance (at 20 °C/68 °F)		13.0 – 14.4 kΩ
PAIR 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		200 – 250 mm Hg
Fuel pressure at idle		294 kPa (3.0 kgf/cm ² , 43 psi)
Fuel pump flow (at 12 V)		220 cm ³ (7.4 US oz , 7.7 Imp oz) minimum/10 seconds

COOLING SYSTEM		SPECIFICATIONS
ITEM		
Coolant capacity	Radiator and engine	3.2 ℓ (3.4 US qt, 2.8 Imp qt)
	Reserve tank	0.5 ℓ (0.5 US qt, 0.4 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	95 °C (203 °F)
	Valve lift	8 mm (0.3 in) minimum
Recommended antifreeze		High quality ethylene glycol antifreeze containing corrosion protection inhibitors
Standard coolant concentration		50% mixture with soft water

Unit: mm (in)

CYLINDER HEAD/VALVES		STANDARD	SERVICE LIMIT	
ITEM				
Cylinder compression		1,275 kPa (13.0 kgf/cm ² , 185 psi) at 350 min ⁻¹ (rpm)		
Cylinder head warpage			0.10 (0.004)	
Valve, valve guide	Valve clearance	IN	0.16 ± 0.03 (0.006 ± 0.001)	
		EX	0.22 ± 0.03 (0.009 ± 0.001)	
	Valve stem O.D.	IN	4.975 – 4.990 (0.1959 – 0.1965)	4.965 (0.1955)
		EX	4.960 – 4.975 (0.1953 – 0.1959)	4.950 (0.1949)
	Valve guide I.D.	IN	5.000 – 5.012 (0.1969 – 0.1973)	5.040 (0.1984)
		EX	5.000 – 5.012 (0.1969 – 0.1973)	5.040 (0.1984)
	Stem-to-guide clearance	IN	0.010 – 0.037 (0.0004 – 0.0015)	
		EX	0.025 – 0.052 (0.0010 – 0.0020)	
	Valve guide projection above cylinder head	IN	16.3 – 16.5 (0.64 – 0.65)	
EX		16.3 – 16.5 (0.64 – 0.65)		
Valve seat width	IN/EX	0.90 – 1.10 (0.035 – 0.043)	1.5 (0.06)	
Valve spring free length	Inner	IN/EX	37.4 (1.47)	35.4 (1.39)
	Outer	IN/EX	40.6 (1.60)	38.6 (1.52)
Valve lifter	Valve lifter O.D.	IN/EX	25.978 – 25.993 (1.0228 – 1.0233)	25.97 (1.022)
	Valve lifter bore I.D.	IN/EX	26.010 – 26.026 (1.0240 – 1.0246)	26.04 (1.025)
Camshaft	Cam lobe height	IN	38.32 – 38.40 (1.509 – 1.512)	38.02 (1.497)
		EX	38.38 – 38.46 (1.511 – 1.514)	38.08 (1.499)
	Runout			0.05 (0.002)
Oil clearance		0.020 – 0.074 (0.0008 – 0.0029)	0.10 (0.004)	

GENERAL INFORMATION

Unit: mm (in)

CLUTCH/GEARSHIFT LINKAGE		ITEM	STANDARD	SERVICE LIMIT
Clutch lever free play			10–20 (3/8–13/16)	—
Clutch spring free length			57.4 (2.26)	56.2 (2.21)
Clutch disc thickness		Blue color	3.72–3.88 (0.146–0.153)	3.5 (0.14)
		Brown color	3.72–3.88 (0.146–0.153)	3.5 (0.14)
Clutch plate warpage				0.30 (0.012)
Clutch outer guide		I.D.	28.000–28.021 (1.1024–1.1032)	28.031 (1.1036)
		O.D.	34.975–34.991 (1.3770–1.3776)	34.965 (1.3766)
Mainshaft O.D. at clutch outer guide			27.980–27.993 (1.1016–1.1021)	27.970 (1.1012)
Shift fork, fork shaft	Fork	I.D.	12.000–12.021 (0.4724–0.4733)	12.03 (0.474)
		Claw thickness	5.93–6.00 (0.233–0.236)	5.9 (0.23)
	Fork shaft O.D.		11.957–11.968 (0.4707–0.4712)	11.95 (0.470)

Unit: mm (in)

ALTERNATOR/STARTER CLUTCH		ITEM	STANDARD	SERVICE LIMIT
Starter driven gear boss O.D.			51.699–51.718 (2.0354–2.0361)	51.684 (2.0348)

Unit: mm (in)

CRANKCASE/PISTON/CYLINDER		ITEM	STANDARD	SERVICE LIMIT
Cylinder	I.D.		79.000–79.015 (3.1102–3.1108)	79.10 (3.114)
	Out of round		—	0.10 (0.004)
	Taper		—	0.10 (0.004)
	Warpage		—	0.05 (0.002)
Piston, piston rings	Piston mark direction		"IN" mark facing toward the intake side	—
	Piston O.D.		78.970–78.990 (3.1090–3.1098)	78.90 (3.106)
	Piston O.D. measurement point		15 mm (0.6 in) from bottom of skirt	—
	Piston pin bore I.D.		19.002–19.008 (0.7481–0.7483)	19.03 (0.749)
	Piston pin O.D.		18.994–19.000 (0.7478–0.7480)	18.984 (0.7474)
	Piston-to-piston pin clearance		0.002–0.014 (0.0001–0.0006)	—
	Piston ring-to-ring groove clearance	Top	0.030–0.065 (0.0012–0.0026)	0.08 (0.003)
		Second	0.015–0.045 (0.0006–0.0018)	0.06 (0.002)
	Piston ring end gap	Top	0.20–0.35 (0.008–0.014)	0.5 (0.02)
		Second	0.40–0.55 (0.016–0.022)	0.7 (0.03)
Oil (side rail)		0.2–0.8 (0.01–0.03)	1.0 (0.04)	
Cylinder-to-piston clearance		0.010–0.045 (0.0004–0.0018)	—	
Connecting rod small end I.D.		19.030–19.051 (0.7492–0.7500)	19.061 (0.7504)	
Connecting rod-to-piston pin clearance		0.030–0.057 (0.0012–0.0022)	—	
Crankpin oil clearance		0.030–0.052 (0.0012–0.0020)	0.062 (0.0024)	

GENERAL INFORMATION

Unit: mm (in)

CRANKSHAFT/TRANSMISSION/BALANCER		STANDARD	SERVICE LIMIT
ITEM			
Crankshaft	Side clearance	0.05 – 0.20 (0.002 – 0.008)	0.30 (0.012)
	Runout		0.30 (0.012)
	Main journal oil clearance	0.017 – 0.035 (0.0007 – 0.0014)	0.045 (0.0018)
Transmission	Gear I.D.	M4, M5	31.000 – 31.025 (1.2205 – 1.2215)
		C1	26.000 – 26.021 (1.0236 – 1.0244)
		C2, 3	33.000 – 33.025 (1.2992 – 1.3002)
	Bushing O.D.	M4, M5	30.950 – 30.975 (1.2185 – 1.2195)
		C2	32.955 – 32.980 (1.2974 – 1.2984)
		C3, distance collar	32.950 – 32.975 (1.2972 – 1.2982)
	Bushing I.D.	M4	27.985 – 28.006 (1.1018 – 1.1026)
		C2	29.985 – 30.006 (1.1805 – 1.1813)
	Gear-to-bushing clearance	M4, M5	0.020 – 0.062 (0.0008 – 0.0024)
		C2	0.020 – 0.070 (0.0008 – 0.0028)
		C3	0.025 – 0.075 (0.0010 – 0.0030)
	Mainshaft O.D.	M4	27.967 – 27.980 (1.1011 – 1.1016)
		Clutch outer guide	27.980 – 27.993 (1.1016 – 1.1021)
Countershaft O.D.	C2	29.967 – 29.980 (1.1798 – 1.1803)	
Bushing-to-shaft clearance	M4	0.005 – 0.039 (0.0002 – 0.0015)	
	C2	0.005 – 0.039 (0.0002 – 0.0015)	

GENERAL INFORMATION

Unit: mm (in)

FRONT WHEEL/SUSPENSION/STEERING		STANDARD	SERVICE LIMIT
ITEM			
Minimum tire tread depth			1.5 (0.06)
Cold tire pressure	Drive only	250 kPa (2.50 kgf/cm ² , 36 psi)	
	Driver and passenger	250 kPa (2.50 kgf/cm ² , 36 psi)	
Axle runout			0.20 (0.008)
Wheel rim runout	Radial		2.0 (0.08)
	Axial		2.0 (0.08)
Fork	Spring free length	320.5 (12.62)	314.1 (12.37)
	Spring direction	With the tapered end facing down	
	Tube runout		0.20 (0.008)
	Recommended fork fluid	Fork fluid	
	Fluid level	164 (6.5)	
	Fluid capacity	446 ± 2.5 cm ³ (15.1 ± 0.08 US oz, 15.7 ± 0.09 Imp oz)	
Steering head bearing pre-load		10 – 15 N (1.0 – 1.5 kgf)	

Unit: mm (in)

REAR WHEEL/SUSPENSION			STANDARD	SERVICE LIMIT
ITEM				
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				0.20 (0.008)
Wheel rim runout	Radial			2.0 (0.08)
	Axial			2.0 (0.08)
Drive chain	Size/link	DID	DID50ZV-110LE	
		RK	RK50LFO-110LE	
	Slack		25 – 35 (1.0 – 1.4)	50 (2.0)
Shock absorber	Spring adjuster standard position		3rd groove	

Unit: mm (in)

HYDRAULIC BRAKE						
ITEM				STANDARD	SERVICE LIMIT	
Front	Specified brake fluid				DOT 4	—
	Brake disc thickness				4.5 (0.18)	3.5 (0.14)
	Brake disc runout				—	0.30 (0.012)
	Master cylinder I.D.				12.700 – 12.743 (0.5000 – 0.5017)	12.76 (0.502)
	Master piston O.D.				12.657 – 12.684 (0.4983 – 0.4994)	12.65 (0.498)
	Secondary master cylinder I.D.				14.000 – 14.043 (0.5512 – 0.5529)	14.055 (0.5533)
	Secondary master piston O.D.				13.957 – 13.984 (0.5495 – 0.5506)	13.945 (0.5490)
	Caliper cylinder I.D.	Right	Upper		27.000 – 27.050 (1.0630 – 1.0650)	27.060 (1.0654)
			Middle		22.650 – 22.700 (0.8917 – 0.8937)	22.710 (0.8941)
			Lower		25.400 – 25.450 (1.0000 – 1.0020)	25.460 (1.0024)
		Left	Upper		25.400 – 25.450 (1.0000 – 1.0020)	25.460 (1.0024)
			Middle		22.650 – 22.700 (0.8917 – 0.8937)	22.710 (0.8941)
			Lower		22.650 – 22.700 (0.8917 – 0.8937)	22.710 (0.8941)
	Caliper piston O.D.	Right	Upper		26.916 – 26.968 (1.0597 – 1.0617)	26.910 (1.0594)
			Middle		22.585 – 22.618 (0.8892 – 0.8905)	22.560 (0.8882)
Lower				25.318 – 25.368 (0.9968 – 0.9987)	25.310 (0.9965)	
Left		Upper		25.318 – 25.368 (0.9968 – 0.9987)	25.310 (0.9965)	
		Middle		22.585 – 22.618 (0.8892 – 0.8905)	22.560 (0.8882)	
		Lower		22.585 – 22.618 (0.8892 – 0.8905)	22.560 (0.8882)	
Rear	Specified brake fluid				DOT 4	—
	Brake pedal height				65 (2.6)	—
	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.				17.417 – 17.444 (0.6857 – 0.6868)	17.405 (0.6852)
	Caliper cylinder I.D.	Front			22.650 – 22.700 (0.8917 – 0.8937)	22.710 (0.8941)
		Center			25.400 – 25.450 (1.0000 – 1.0020)	25.460 (1.0024)
		Rear			22.650 – 22.700 (0.8917 – 0.8937)	22.710 (0.8941)
	Caliper piston O.D.	Front			22.585 – 22.618 (0.8892 – 0.8905)	22.560 (0.8882)
		Center			25.318 – 25.368 (0.9968 – 0.9987)	25.310 (0.9965)
Rear				22.585 – 22.618 (0.8892 – 0.8905)	22.560 (0.8882)	

BATTERY/CHARGING SYSTEM						
ITEM				SPECIFICATIONS		
Battery	Capacity				12V – 10 AH	
	Current leakage				0.2 mA max.	
	Voltage (20 °C/68 °F)	Fully charged			13.0 – 13.2 V	
		Needs charging			Below 12.3 V	
	Charging current	Normal			0.9 A/5 – 10 h	
Quick			4.0 A/0.5 h			
Alternator	Capacity				0.46 kW/5,000 min ⁻¹ (rpm)	
	Charging coil resistance (20 °C/68 °F)				0.1 – 1.0 Ω	

GENERAL INFORMATION

IGNITION SYSTEM		SPECIFICATIONS
ITEM		
Spark plug		CR8EHVX-9 (NGK)
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)		12° BTDC at idle

Unit: mm (in)

ELECTRIC STARTER		STANDARD	SERVICE LIMIT
ITEM			
Starter motor brush length		12.0-13.0 (0.47-0.51)	4.5 (0.18)

LIGHTS/METERS/SWITCHES		SPECIFICATIONS
ITEM		
Bulbs	Headlight (Hi/Lo)	12V-60/55W
	Position light	12V-4W
	Brake/tail light	12V-21/5W × 2
	Front turn signal light	12V-21W × 2
	Rear turn signal light	12V-21W × 2
	Instrument light	12V-1.7W × 3
	Turn signal indicator	12V-3.4W × 2
	High beam indicator	12V-1.7W
	Neutral indicator	12V-1.7W
	Oil pressure indicator	12V-1.7W
	PGM-FI warning indicator	12V-1.7W
	Fuel reserve indicator	12V-1.7W
	Immobilizer indicator	12V-1.7W
Fuse	Main fuse	30A
	PGM-FI fuse	30A
	Sub fuse	10A × 6
Tachometer peak voltage		10.5 V minimum
Thermo sensor resistance	80 °C	47.5-56.8 kΩ
	120 °C	14.9-17.3 kΩ
Fan motor switch	Start to close (ON)	98-102 °C (208-216 °F)
	Stop to open	93-97 °C (199-207 °F)

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	5 (0.5 , 3.6)	5 mm screw	4 (0.4 , 2.9)
6 mm hex bolt and nut	10 (1.0 , 7)	6 mm screw	9 (0.9 , 6.5)
8 mm hex bolt and nut	22 (2.2 , 16)	6 mm flange bolt (8 mm head)	9 (0.9 , 6.5)
10 mm hex bolt and nut	34 (3.5 , 25)	6 mm flange bolt (10 mm head)	12 (1.2 , 9)
12 mm hex bolt and nut	54 (5.5 , 40)	and nut	
		8 mm flange bolt and nut	26 (2.7 , 20)
		10 mm flange bolt and nut	39 (4.0 , 29)

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

- NOTES:
1. Apply sealant to the threads.
 2. Apply a locking agent to the threads.
 3. Apply grease to the threads.
 4. Stake.
 5. Apply oil to the threads and flange surface.
 6. Apply clean engine oil to the O-ring.
 7. U-nut.
 8. ALOC bolt: replace with a new one.
 9. CT bolt.

ENGINE

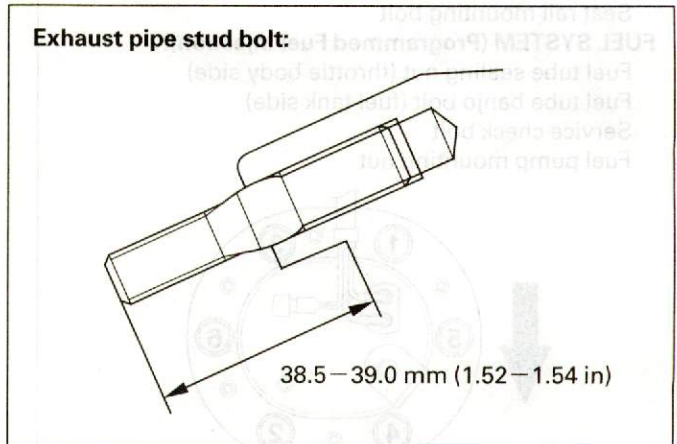
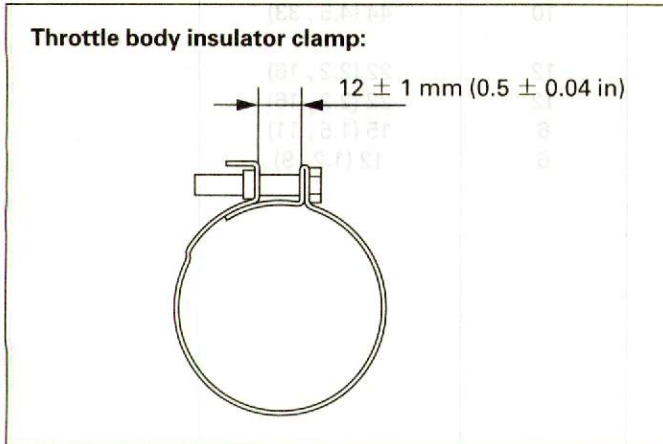
ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
MAINTENANCE:				
Spark plug	4	10	12 (1.2 , 9)	
Timing hole cap	1	45	18 (1.8 , 13)	NOTE 3
LUBRICATION SYSTEM:				
Oil drain bolt	1	14	29 (3.0 , 22)	
Oil filter boss	1	20	18 (1.8 , 13)	NOTE 2
Oil pump assembly flange bolt	1	6	13 (1.3 , 9)	NOTE 9
Oil pump driven sprocket bolt	1	6	15 (1.5 , 11)	NOTE 2
Oil strainer nut	1	6	12 (1.2 , 9)	NOTE 7
Oil filter cartridge	1	20	10 (1.0 , 7)	NOTE 6
Oil pressure switch	1	PT 1/8	12 (1.2 , 9)	NOTE 1
Oil pressure switch wire terminal screw	1	4	2 (0.2 , 1.4)	
Oil pipe mounting bolt	2	6	12 (1.2 , 9)	NOTE 2
FUEL SYSTEM (Programmed Fuel Injection):				
ECT (Engine Coolant Temperature)/thermo sensor	1	12	23 (2.3 , 17)	NOTE 1
Knock sensor	1	12	31 (3.2 , 23)	
Throttle body insulator band screw	8	5	See page 1-15	
Throttle cable bracket mounting bolt	2	5	3 (0.35 , 2.5)	
Fuel pipe mounting nut	2	6	10 (1.0 , 7)	NOTE 7
Fuel pipe setting bolt	2	8	22 (2.2 , 16)	Yellow paint
Pressure regulator lock nut	1	18	27 (2.8 , 20)	Yellow paint
Starter valve synchronization plate screw	4	3	1 (0.09 , 0.7)	
Starter valve lock nut	4	10	2 (0.18 , 1.3)	
Vacuum joint plug socket bolt for synchronization	4	5	3 (0.3 , 2.2)	
COOLING SYSTEM:				
Water pump cover bolt	3	6	13 (1.3 , 9)	NOTE 9

GENERAL INFORMATION

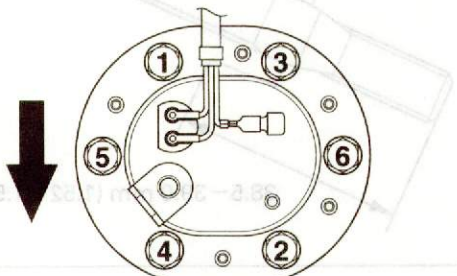
ENGINE (Cont'd)				
ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N-m (kgf-m, lbf-ft)	REMARKS
ENGINE MOUNTING:				
Drive sprocket cover bolt	2	6	12 (1.2, 9)	
Drive sprocket special bolt	1	10	54 (5.5, 40)	
CYLINDER HEAD/VALVES:				
Cylinder head cover bolt	6	6	10 (1.0, 7)	
Breather plate flange bolt	5	6	12 (1.2, 9)	NOTE 2, 9
Camshaft holder flange bolt	10	6	12 (1.2, 9)	NOTE 5
Cylinder head sealing bolt	1	18	32 (3.3, 24)	NOTE 2
Cylinder head SH bolt	2	6	10 (1.0, 7)	
Cylinder head mounting bolt/washer	10	10	67 (6.8, 49)	NOTE 5
Cam sprocket bolt	4	7	20 (2.0, 14)	NOTE 2
Cam chain tensioner cap nut	1	6	12 (1.2, 9)	
Cam chain tensioner lifter mounting bolt	2	6	10 (1.0, 7)	
Cam chain guide A mounting bolt	1	6	12 (1.2, 9)	
Cylinder head stud bolt (exhaust pipe stud bolt)	8	8	See page 1-15	
PAIR reed valve cover flange bolt	4	6	13 (1.3, 9)	
Cam pulse generator cover SH bolt	3	6	12 (1.2, 9)	
CLUTCH/GEARSHIFT LINKAGE:				
Clutch center lock nut	1	25	127 (13.0, 94)	NOTE 4, 5
Clutch spring bolt/washer	5	6	12 (1.2, 9)	
Right crankcase cover SH bolt	11	6	12 (1.2, 9)	
Right crankcase cover center bolt	1	6	12 (1.2, 9)	
Shift drum center socket bolt	1	8	23 (2.3, 17)	NOTE 2
Shift drum stopper pivot bolt	1	6	12 (1.2, 9)	
Gearshift return spring pin	1	8	23 (2.3, 17)	
ALTERNATOR/STARTER CLUTCH:				
Alternator cover SH bolt	10	6	12 (1.2, 9)	
Alternator wire clamp socket bolt	1	6	9 (0.9, 6.5)	
Flywheel flange bolt	1	10	103 (10.5, 76)	NOTE 5
Stator mounting socket bolt	4	6	12 (1.2, 9)	
Stator one-way clutch socket bolt	6	6	16 (1.6, 12)	NOTE 2
CRANKCASE/PISTON/CYLINDER:				
Crankcase bolt, 10 mm	1	10	39 (4.0, 29)	
9 mm (main journal bolt)	10	9	37 (3.8, 27)	NOTE 5
8 mm	10	8	25 (2.5, 18)	
7 mm	7	7	18 (1.8, 13)	
6 mm	6	6	12 (1.2, 9)	
Connecting rod nut	8	8	41 (4.2, 30)	NOTE 5
Lower crankcase flange bolt	1	10	29 (3.0, 22)	NOTE 2
Lower crankcase sealing bolt, 20 mm	1	20	29 (3.0, 22)	NOTE 2
8 mm	1	8	22 (2.2, 16)	NOTE 2
CRANKSHAFT/TRANSMISSION/BALANCER:				
Mainshaft bearing set plate flange bolt	2	6	12 (1.2, 9)	NOTE 2
Shift drum set plate flange bolt	2	6	12 (1.2, 9)	NOTE 2
Balancer shaft holder flange bolt	2	8	27 (2.8, 20)	
Balancer shaft pinch bolt	3	6	12 (1.2, 9)	

ENGINE (Cont'd)

REMARKS	ITEM	THREAD DIA. (mm)	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
IGNITION SYSTEM:						
	Ignition pulse generator cover SH bolt	10	8	6	12 (1.2 , 9)	NOTE 1
	Ignition pulse generator rotor special bolt	10	1	10	59 (6.0 , 43)	See page 1-20 NOTE 5
LIGHT/METERS/SWITCHES:						
	Neutral switch	8	1	10	12 (1.2 , 9)	



GENERAL INFORMATION

FRAME	ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
FRAME BODY PANELS/EXHAUST SYSTEM:					
	Side stand pivot bolt	1	10	10 (1.0 , 7)	
	Side stand pivot lock nut	1	10	29 (3.0 , 22)	
	Main stand mounting bolt	1	10	54 (5.5 , 40)	NOTE 8
	Main stand spring hook	1	8	26 (2.7 , 20)	
	Bank sensor	2	8	22 (2.2 , 16)	
	Exhaust pipe joint nut	8	7	21 (2.1 , 15)	
	Muffler band bolt	4	8	18 (1.8 , 13)	
	Muffler bracket bolt	2	8	26 (2.7 , 20)	
	Seat rail mounting bolt	4	10	44 (4.5 , 33)	
FUEL SYSTEM (Programmed Fuel Injection):					
	Fuel tube sealing nut (throttle body side)	1	12	22 (2.2 , 16)	
	Fuel tube banjo bolt (fuel tank side)	1	12	22 (2.2 , 16)	
	Service check bolt	1	6	15 (1.5 , 11)	
	Fuel pump mounting nut	6	6	12 (1.2 , 9)	
					
	Fuel filler cap bolt	3	4	2 (0.2 , 1.4)	
	O ₂ sensor	1	12	25 (2.5 , 18)	
	Bank angle sensor mounting screw	2	4	2 (0.2 , 1.4)	
COOLING SYSTEM:					
	Cooling fan nut	1	5	3 (0.27 , 2.0)	
	Fan motor nut	3	6	5 (0.5 , 3.6)	
ENGINE MOUNTING:					
	Side stand bracket bolt	2	10	54 (5.5 , 40)	
	Engine hanger nut (rear/upper)	1	12	64 (6.5 , 47)	
	Engine hanger nut (rear/lower)	1	12	64 (6.5 , 47)	
	Engine hanger bolt	3	10	40 (4.1 , 30)	
	Engine hanger adjusting bolt	2	22	11 (1.1 , 8)	
	Engine hanger adjusting bolt lock nut	2	22	54 (5.5 , 40)	
CLUTCH/GEARSHIFT LINKAGE:					
	Gearshift pedal bolt	1	6	10 (1.0 , 7)	
FRONT WHEEL/SUSPENSION/STEERING:					
	Handlebar stopper bolt	2	8	25 (2.6 , 19)	
	Handlebar weight mounting screw	2	6	10 (1.0 , 7)	
	Steering stem nut	1	24	103 (10.5 , 76)	NOTE 8 See page 13-33
	Top thread A	1	26	26 (2.7 , 20)	
	Top thread B	1	26		
	Fork top bridge pinch bolt	2	8	23 (2.3 , 17)	
	Fork bottom bridge pinch bolt	2	10	49 (5.0 , 36)	
	Front axle bolt	1	14	59 (6.0 , 43)	
	Front axle holder bolt	4	8	22 (2.2 , 16)	
	Front brake disc mounting bolt	12	6	20 (2.0 , 14)	NOTE 8
	Fork cap	2	37	23 (2.3 , 17)	
	Fork socket bolt	2	8	20 (2.0 , 14)	NOTE 2
	Fork damper lock nut	2	10	20 (2.0 , 14)	