



# HONDA



## SERVICE MANUAL

**CB900F**  
**919**



## A Few Words About Safety Service Information

The service and repair information contained in this manual is intended for use by qualified, professional technicians. Attempting service or repairs without the proper training, tools, and equipment could cause injury to you or others. It could also damage the vehicle or create an unsafe condition.

This manual describes the proper methods and procedures for performing service, maintenance, and repairs. Some procedures require the use of specially designed tools and dedicated equipment. Any person who intends to use a replacement part, service procedure or a tool that is not recommended by Honda, must determine the risks to their personal safety and the safe operation of the vehicle.

If you need to replace a part, use genuine Honda parts with the correct part number or an equivalent part. We strongly recommend that you do not use replacement parts of inferior quality.

### For Your Customer's Safety

Proper service and maintenance are essential to the customer's safety and the reliability of the vehicle. Any error or oversight while servicing a vehicle can result in faulty operation, damage to the vehicle, or injury to others.

### For Your Safety

Because this manual is intended for the professional service technician, we do not provide warnings about many basic shop safety practices (e.g., Hot parts – wear gloves). If you have not received shop safety training or do not feel confident about your knowledge of safe servicing practice, we recommended that you do not attempt to perform the procedures described in this manual.

Some of the most important general service safety precautions are given below. However, we cannot warn you of every conceivable hazard that can arise in performing service and repair procedures. Only you can decide whether or not you should perform a given task.

### Important Safety Precautions

Make sure you have a clear understanding of all basic shop safety practices and that you are wearing appropriate clothing and using safety equipment. When performing any service task, be especially careful of the following:

- Read all of the instructions before you begin, and make sure you have the tools, the replacement or repair parts, and the skills required to perform the tasks safely and completely.
- Protect your eyes by using proper safety glasses, goggles or face shields any time you hammer, drill, grind, pry or work around pressurized air or liquids, and springs or other stored-energy components. If there is any doubt, put on eye protection.
- Use other protective wear when necessary, for example gloves or safety shoes. Handling hot or sharp parts can cause severe burns or cuts. Before you grab something that looks like it can hurt you, stop and put on gloves.
- Protect yourself and others whenever you have the vehicle up in the air. Any time you lift the vehicle, either with a hoist or a jack, make sure that it is always securely supported. Use jack stands.

Make sure the engine is off before you begin any servicing procedures, unless the instruction tells you to do otherwise. This will help eliminate several potential hazards:

- Carbon monoxide poisoning from engine exhaust. Be sure there is adequate ventilation whenever you run the engine.
- Burns from hot parts or coolant. Let the engine and exhaust system cool before working in those areas.
- Injury from moving parts. If the instruction tells you to run the engine, be sure your hands, fingers and clothing are out of the way.

Gasoline vapors and hydrogen gases from batteries are explosive. To reduce the possibility of a fire or explosion, be careful when working around gasoline or batteries.

- Use only a nonflammable solvent, not gasoline, to clean parts.
- Never drain or store gasoline in an open container.
- Keep all cigarettes, sparks and flames away from the battery and all fuel-related parts.

### WARNING

Improper service or repairs can create an unsafe condition that can cause your customer or others to be seriously hurt or killed.

Follow the procedures and precautions in this manual and other service materials carefully.

### WARNING

Failure to properly follow instructions and precautions can cause you to be seriously hurt or killed.

Follow the procedures and precautions in this manual carefully.



# HOW TO USE THIS MANUAL

This service manual describes the service procedures for the CB900F.

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 19 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 that 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.

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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Honda Motor Co., Ltd.  
SERVICE PUBLICATION OFFICE

# CONTENTS

	<b>GENERAL INFORMATION</b>	<b>1</b>
	<b>FRAME/BODY PANELS/EXHAUST SYSTEM</b>	<b>2</b>
	<b>MAINTENANCE</b>	<b>3</b>
<b>ENGINE AND DRIVE TRAIN</b>	<b>LUBRICATION SYSTEM</b>	<b>4</b>
	<b>FUEL SYSTEM (Programmed Fuel Injection)</b>	<b>5</b>
	<b>COOLING SYSTEM</b>	<b>6</b>
	<b>ENGINE REMOVAL/INSTALLATION</b>	<b>7</b>
	<b>CYLINDER HEAD/VALVES</b>	<b>8</b>
	<b>CLUTCH/GEARSHIFT LINKAGE</b>	<b>9</b>
	<b>ALTERNATOR/STARTER CLUTCH</b>	<b>10</b>
	<b>CRANKCASE/TRANSMISSION</b>	<b>11</b>
	<b>CRANKSHAFT/PISTON/CYLINDER</b>	<b>12</b>
<b>CHASSIS</b>	<b>FRONT WHEEL/SUSPENSION/STEERING</b>	<b>13</b>
	<b>REAR WHEEL/SUSPENSION</b>	<b>14</b>
	<b>HYDRAULIC BRAKE</b>	<b>15</b>
<b>ELECTRICAL</b>	<b>BATTERY/CHARGING SYSTEM</b>	<b>16</b>
	<b>IGNITION SYSTEM</b>	<b>17</b>
	<b>ELECTRIC STARTER</b>	<b>18</b>
	<b>LIGHTS/METERS/SWITCHES</b>	<b>19</b>
	<b>WIRING DIAGRAMS</b>	<b>20</b>
	<b>TROUBLESHOOTING</b>	<b>21</b>

## SYMBOLS

The symbols used throughout this manual show specific service procedures. If supplementary information is required pertaining to these symbols, it will 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 the 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 medium 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

<b>SERVICE RULES</b>	<b>1-1</b>	<b>LUBRICATION &amp; SEAL POINTS</b>	<b>1-18</b>
<b>MODEL IDENTIFICATION</b>	<b>1-2</b>	<b>CABLE &amp; HARNESS ROUTING</b>	<b>1-22</b>
<b>SPECIFICATIONS</b>	<b>1-3</b>	<b>EMISSION CONTROL SYSTEMS</b>	<b>1-35</b>
<b>TORQUE VALUES</b>	<b>1-12</b>	<b>EMISSION CONTROL INFORMATION</b>	
<b>TOOLS</b>	<b>1-17</b>	<b>LABELS</b>	<b>1-38</b>

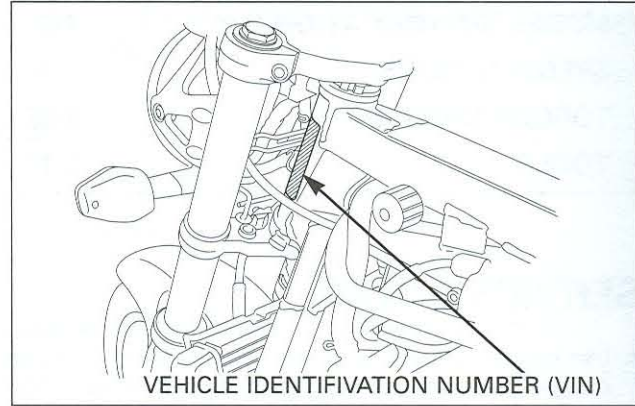
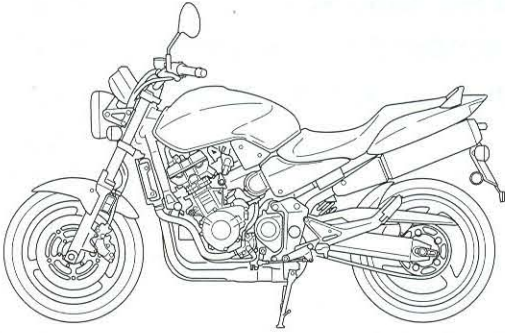
**1**

## SERVICE RULES

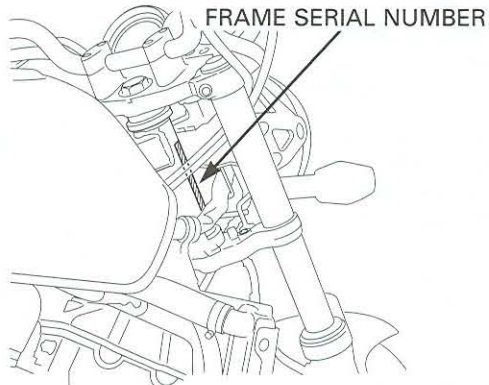
1. Use genuine Honda or Honda-recommended parts and lubricants or their equivalents. Parts that don't meet Honda's design specifications may cause damage to the motorcycle.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing 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 on pages 1-22 through 1-32, Cable and Harness Routing.

## GENERAL INFORMATION

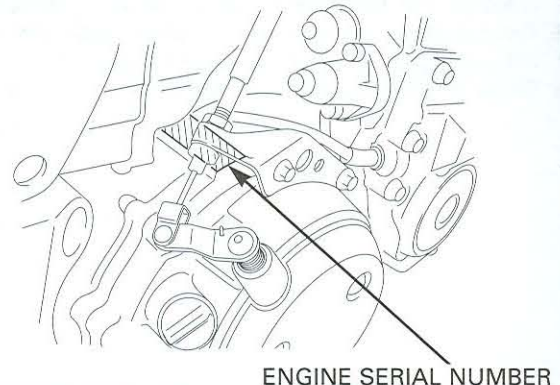
# MODEL IDENTIFICATION



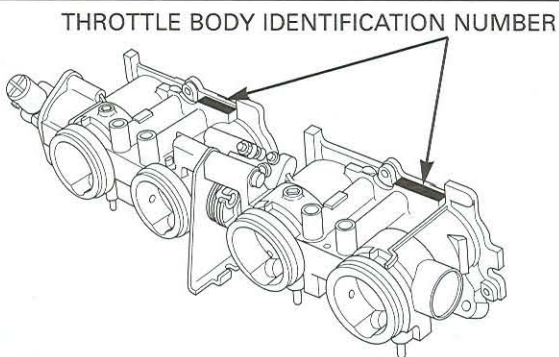
The Vehicle Identification Number (VIN) is located on the left side of the frame near the steering head.



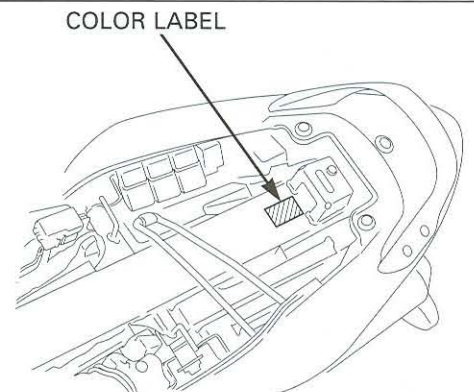
The engine serial number is stamped on the right side of the upper crankcase.



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



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.

**SPECIFICATIONS**

GENERAL			
	ITEM	SPECIFICATIONS	
DIMENSIONS	Overall length	2,125 mm (83.7 in)	
	Overall width	750 mm (29.5 in)	
	Overall height	1,085 mm (42.7 in)	
	Wheelbase	1,460 mm (57.5 in)	
	Seat height	795 mm (31.3 in)	
	Footpeg height	345 mm (13.6 in)	
	Ground clearance	145 mm (5.7 in)	
	Dry weight	Except California type California type	194 kg (428 lbs) 195 kg (430 lbs)
	Curb weight	Except California type California type	218 kg (481 lbs) 219 kg (483 lbs)
	Maximum weight capacity		174 kg (384 lbs)
FRAME	Frame type	Diamond	
	Front suspension	Telescopic fork	
	Front axle travel	109 mm (4.3 in)	
	Rear suspension	Swingarm	
	Rear axle travel	128 mm (4.7 in)	
	Front tire size	120/70 ZR 17 (58W), 120/70 ZR 17 M/C (58W)	
	Rear tire size	180/55 ZR 17 (73W), 180/55 ZR 17 M/C (73W)	
	Front tire brand	BT56F RADIAL N (Bridgestone) TX15 (Michelin)	
	Rear tire brand	BT56R RADIAL G (Bridgestone) TX25 (Michelin)	
	Front brake	Hydraulic double disc	
	Rear brake	Hydraulic single disc	
	Caster angle	25°	
	Trail length	98 mm (3.9 in)	
Fuel tank capacity	19.0 liter (5.02 US gal, 4.18 Imp gal)		
ENGINE	Cylinder arrangement	4 cylinders in-line, inclined 30° from vertical	
	Bore and stroke	71.0 X 58.0 mm (2.80 X 2.28 in)	
	Displacement	919 cm <sup>3</sup> (56.1 cu-in)	
	Compression ratio	10.8 : 1	
	Valve train	Chain driven, DOHC	
	Intake valve	opens — at 1 mm closes — (0.04 in) lift	
	Exhaust valve	opens — closes —	
	Lubrication system	Forced pressure and wet sump	
	Oil pump type	Trochoid	
	Cooling system	Liquid cooled	
	Air filtration	Paper element	
	Engine dry weight	68 kg (150 lbs)	
	Firing order	1 - 2 - 4 - 3	

## GENERAL INFORMATION

GENERAL (Cont'd)		
	ITEM	SPECIFICATIONS
CARBURATION	Type Throttle bore	PGM-FI (Programmed Fuel Injection) 36 mm (1.4 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 Cable operating Constant mesh, 6-speeds 1.52 (76/50) 2.688 (43/16) 2.769 (36/13) 2.000 (26/13) 1.600 (24/15) 1.368 (26/19) 1.227 (27/22) 1.130 (26/23)  Left foot operated return system, 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

Unit: mm (in)

<b>LUBRICATION SYSTEM</b>			
ITEM		STANDARD	SERVICE LIMIT
Engine oil capacity	After draining	3.5 liter (3.7 US qt, 3.1 Imp qt)	—
	After draining/filter change	3.6 liter (3.8 US qt, 3.2 Imp qt)	—
	After disassembly	4.4 liter (4.6 US qt, 3.9 Imp qt)	—
Recommended engine oil		Pro Honda GN4 or HP4 (without molybdenum additives) 4-stroke oil (USA & 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 API service label. JASO T903 standard MA Viscosity: SAE 10W-40	—
Oil pressure at oil pressure switch		490 kPa (5.0 kgf/cm <sup>2</sup> , 71 psi) at 6,000 min <sup>-1</sup> (rpm)/(80°C/176°F)	—
Oil pump rotor	Tip clearance	0.15 (0.006)	0.20 (0.008)
	Body clearance	0.15 – 0.22 (0.006 – 0.009)	0.35 (0.014)
	Side clearance	0.02 – 0.07 (0.001 – 0.003)	0.10 (0.004)

<b>FUEL SYSTEM (Programmed Fuel Injection)</b>		
ITEM		SPECIFICATIONS
Throttle body identification number	Except California type	GQ34C
	California type	GQ34B
Starter valve vacuum difference		2664 Pa (20 mm Hg)
Base throttle valve for synchronization		No.2
Idle speed		1,200 ± 100 min <sup>-1</sup> (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 injector resistance (at 20°C/68°F)		11.1 – 12.3 Ω
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		343 kPa (3.5 kgf/cm <sup>2</sup> , 50 psi)
Fuel pump flow (at 12 V)		256 cm <sup>3</sup> (8.7 US oz, 9.0 Imp oz) minimum/10 seconds

## GENERAL INFORMATION

COOLING SYSTEM		SPECIFICATIONS
ITEM		
Coolant capacity	Radiator and engine	3.2 liter (3.38 US qt, 2.82 Imp qt)
	Reserve tank	0.8 liter (0.85 US qt, 0.70 Imp qt)
Radiator cap relief pressure		108 – 137 kPa (1.1 – 1.4 kgf/cm <sup>2</sup> , 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		Pro Honda Coolant or an equivalent high quality ethylene glycol antifreeze containing corrosion protection inhibitors specifically recommended for use in aluminum engines
Standard coolant concentration		50 – 50% mixture with soft water

CYLINDER HEAD/VALVES		Unit: mm (in)	
ITEM		STANDARD	SERVICE LIMIT
Cylinder compression		1,275 kPa (13.0 kgf/cm <sup>2</sup> , 185 psi) at 350 min <sup>-1</sup> (rpm)	—
Valve clearance	IN	0.16 ± 0.03 (0.006 ± 0.001)	—
	EX	0.25 ± 0.03 (0.010 ± 0.001)	—
Camshaft	Cam lobe height	IN	36.040 – 36.280 (1.419 – 1.428)
		EX	35.800 – 36.040 (1.409 – 1.419)
	Runout	—	0.05 (0.002)
Oil clearance		0.020 – 0.062 (0.008 – 0.0025)	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	4.475 – 4.490 (0.1762 – 0.1768)
		EX	4.465 – 4.480 (0.1758 – 0.1764)
	Valve guide I.D.	IN/EX	4.500 – 4.512 (0.1772 – 0.1776)
	Stem-to-guide clearance	IN	0.010 – 0.037 (0.0004 – 0.0015)
		EX	0.020 – 0.047 (0.0008 – 0.0019)
	Valve guide projection above cylinder head	IN	14.5 – 14.7 (0.57 – 0.58)
EX		14.8– 15.0 (0.58 – 0.59)	
Valve seat width	IN/EX	0.90 – 1.10 (0.035 – 0.043)	
Valve spring free length	IN	40.9 (1.61)	
	EX	40.9 (1.61)	
Cylinder head warpage		—	0.10 (0.004)



## GENERAL INFORMATION

Unit: mm (in)

<b>CLUTCH/GEARSHIFT LINKAGE</b>			
ITEM		STANDARD	SERVICE LIMIT
Clutch lever free play		10 – 20 (3/8 – 13/16)	—
Clutch	Spring free length	48.8 (1.92)	47.5 (1.87)
	Disc thickness	2.92 – 3.08 (0.115 – 0.121)	2.6 (0.10)
	Plate warpage	—	0.30 (0.012)
Clutch outer guide	I.D.	24.994 – 25.004 (0.9840 – 0.9844)	25.01 (0.985)
	O.D.	34.975 – 34.991 (1.3770 – 1.3776)	34.97 (1.377)
Mainshaft O.D. at clutch outer guide		24.980 – 24.993 (0.9835 – 0.9840)	24.96 (0.983)
Shift fork, fork shaft	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)
	Shift fork shaft O.D.	11.957 – 11.968 (0.4707 – 0.4712)	11.95 (0.470)

Unit: mm (in)

<b>ALTERNATOR/STARTER CLUTCH</b>			
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)

<b>CRANKCASE/PISTON/CYLINDER</b>				
ITEM		STANDARD	SERVICE LIMIT	
Cylinder	I.D.	71.000 – 71.015 (2.7953 – 2.7963)	71.10 (2.795)	
	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.		70.965 – 70.985 (2.7939 – 2.7947)	
	Piston O.D. measurement point		15 mm (0.6 in) from bottom of skirt	
	Piston pin bore I.D.		17.002 – 17.008 (0.6694 – 0.6696)	
	Piston pin O.D.		16.993 – 17.000 (0.6690 – 0.6693)	
	Piston-to-piston pin clearance		0.002 – 0.015 (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)	0.07 (0.003)
	Piston ring end gap	Top	0.28 – 0.38 (0.011 – 0.015)	0.5 (0.02)
Second		0.40 – 0.55 (0.016 – 0.022)	0.7 (0.03)	
Oil (side rail)		0.2 – 0.7 (0.01 – 0.03)	0.9 (0.04)	
Cylinder-to-piston clearance		0.015 – 0.050 (0.0006 – 0.0020)	—	
Connecting rod small end I.D.		17.016 – 17.034 (0.6699 – 0.6706)	17.04 (0.671)	
Connecting rod-to-piston pin clearance		0.016 – 0.041 (0.0006 – 0.0016)	—	
Crankpin oil clearance		0.030 – 0.052 (0.0012 – 0.0020)	0.06 (0.002)	

## GENERAL INFORMATION

Unit: mm (in)

CRANKSHAFT/TRANSMISSION			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)	0.04 (0.002)
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 – 0.9547)	24.04 (0.946)
		C2, 3, 4	31.000 – 31.025 (1.2205 – 1.2215)	31.04 (1.222)
	Bushing O.D.	M5, 6	27.959 – 27.980 (1.1007 – 1.1016)	27.94 (1.100)
		C2	30.955 – 30.980 (1.2187 – 1.2197)	30.93 (1.218)
		C3, 4	30.950 – 30.975 (1.2185 – 1.2195)	30.93 (1.218)
	Bushing I.D.	M5	24.985 – 25.006 (0.9837 – 0.9845)	25.02 (0.985)
		C2	27.985 – 28.006 (1.1018 – 1.1026)	28.02 (1.103)
	Gear-to-bushing clearance	M5, 6	0.020 – 0.062 (0.0008 – 0.0024)	0.10 (0.004)
		C2	0.020 – 0.070 (0.0008 – 0.0028)	0.11 (0.004)
		C3, 4	0.025 – 0.075 (0.0010 – 0.0030)	0.11 (0.004)
	Mainshaft O.D.	M5	24.967 – 24.980 (0.9830 – 0.9835)	24.96 (0.983)
		Clutch outer guide	24.980 – 24.993 (0.9835 – 0.9840)	24.96 (0.983)
	Countershaft O.D.	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)	0.08 (0.003)
C2		0.005 – 0.039 (0.0002 – 0.0015)	0.08 (0.003)	



## GENERAL INFORMATION

Unit: mm (in)

### FRONT WHEEL/SUSPENSION/STEERING

ITEM		STANDARD	SERVICE LIMIT
Minimum tire tread depth		—	1.5 (0.06)
Cold tire pressure	Driver only	250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)	—
	Driver and passenger	250 kPa (2.50 kgf/cm <sup>2</sup> , 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 (2.1 oz) max.
Fork	Spring free length	282.3 (11.1)	276.7 (10.89)
	Tube runout	—	0.20 (0.008)
	Recommended fork fluid	Pro Honda Suspension Fluid SS-8	—
	Fluid level	155 (6.1)	—
	Fluid capacity	463 ± 2.5 cm <sup>3</sup> (15.7 ± 0.08 US oz, 16.3 ± 0.09 Imp oz)	—
Steering head bearing pre-load		10 – 15 N•m (1.0 – 1.5 kgf)	—

### REAR WHEEL/SUSPENSION

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 <sup>2</sup> , 42 psi)	—
	Driver and passenger	290 kPa (2.90 kgf/cm <sup>2</sup> , 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	DID50VA8-114LE
		RK	RK50HFOZ5-114LE
	Slack	30 – 40 (1.2 – 1.6)	—

## GENERAL INFORMATION

Unit: mm (in)

HYDRAULIC BRAKE			STANDARD	SERVICE LIMIT
ITEM				
Front	Specified brake fluid		DOT 4	—
	Brake disc thickness		4.3 – 4.7 (0.17 – 0.19)	3.5 (0.14)
	Brake disc runout		—	0.3 (0.012)
	Master cylinder I.D.		14.000 – 14.043 (0.5512 – 0.5529)	14.055 (0.5533)
	Master piston O.D.		13.957 – 13.984 (0.5495 – 0.5506)	13.945 (0.5490)
	Caliper cylinder I.D.	A	30.230 – 30.280 (1.1902 – 1.1921)	30.29 (1.193)
		B	27.000 – 27.050 (1.0630 – 1.0650)	27.06 (1.065)
	Caliper piston O.D.	A	30.148 – 30.198 (1.1869 – 1.1889)	30.14 (1.187)
B		26.918 – 26.968 (1.0598 – 1.0617)	26.91 (1.059)	
Rear	Specified brake fluid		DOT 4	—
	Brake disc thickness		4.8 – 5.2 (0.19 – 0.20)	4.0 (0.16)
	Brake disc runout		—	0.30 (0.012)
	Master cylinder I.D.		12.700 – 12.743 (0.49999 – 0.5017)	12.755 (0.5022)
	Master piston O.D.		12.657 – 12.684 (0.4983 – 0.4994)	12.645 (0.4978)
	Caliper cylinder I.D.		38.180 – 38.230 (1.053 – 1.505)	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			
Battery	Capacity		12V – 8.6 Ah
	Current leakage		1.2 mA max.
	Voltage (20°C/68°F)	Fully charged	13.0 – 13.2 V
		Needs charging	Below 12.3 V
	Charging current	Normal	1.2 A/5 – 10 h
Quick		5.0 A/1 h	
Alternator	Capacity		0.38 kW/5,000 min <sup>-1</sup> (rpm)
	Charging coil resistance (20°C/68°F)		0.1 – 1.0 Ω

IGNITION SYSTEM			SPECIFICATIONS
ITEM			
Spark plug	NGK	CR8EH-9 (Standard) / CR9EH-9 (For high speed running)	
	DENSO	U24FER9 (Standard) / U27FER9 (For high running)	
Spark plug gap		0.8 – 0.9 mm (0.03 – 0.04 in)	
Ignition coil peak voltage		100 V minimum	
Ignition pulse generator peak voltage		0.7 V minimum	
Ignition timing ("F" mark)		8° BTDC at idle	



Unit: mm (in)

**ELECTRIC STARTER**

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

**LIGHTS/METERS/SWITCHES**

ITEM		SPECIFICATIONS	
Bulbs	Headlight	Hi	12V – 60 W
		Lo	12V – 55 W
	Brake/tail light		12V – 21/5 W X 2
	Turn signal light	Front	12V – 23/8 W X 2
		Rear	12V – 21 W
	License light		12V – 5 W
	Instrument light		12V – 1.7 W X 3
	Turn signal indicator		12V – 1.7 W X 2
	High beam indicator		LED
	Neutral indicator		LED
	Oil pressure indicator		LED
	PGM-FI warning indicator		LED
Fuel reserve indicator		LED	
Fuse	Main fuse		30 A
	PGM-FI fuse		20 A
	Sub fuse		20 A X 1, 10A X 4
Tachometer peak voltage		10.5 V minimum	
ECT sensor resistration	80 °C	2.1 – 2.6 k Ω	
	120 °C	0.62 – 0.76 k Ω	

## GENERAL INFORMATION

### 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, small flange)	10 (1.0, 7)
10 mm hex bolt and nut	34 (3.5, 25)	6 mm flange bolt (8 mm head, large flange)	12 (1.2, 9)
12 mm hex bolt and nut	54 (5.5, 40)	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)

- 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. 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				
ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
<b>MAINTENANCE:</b>				
Spark plug	4	10	12 (1.2, 9)	
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)	
<b>LUBRICATION SYSTEM:</b>				
Oil main gallery sealing bolt (20mm)	1	20	29 (3.0, 22)	NOTE 2
Oil pump cover bolt	1	6	8 (0.8, 5.8)	NOTE 9
Oil cooler bolt (filter boss)	1	20	64 (6.5, 47)	NOTE 4
<b>FUEL SYSTEM (Programmed Fuel Injection):</b>				
ECT (Engine Coolant Temperature)/thermo sensor	1	12	23 (2.3, 17)	
Throttle body insulator band screw	8	5	See page 1-14	
Starter valve lock nut	4	10	2 (0.18, 1.3)	
Starter valve cable stay screw	4	3	1 (0.09, 0.7)	
Pressure regulator mounting bolt	2	6	10 (1.0, 7)	
<b>COOLING SYSTEM:</b>				
Water pump cover flange bolt	2	6	12 (1.2, 9)	NOTE 9
<b>ENGINE MOUNTING:</b>				
Drive sprocket special bolt	1	10	54 (5.5, 40)	

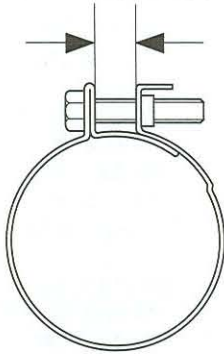


ENGINE (Cont'd)				
ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N•m (kgf•m, lbf•ft)	REMARKS
<b>CYLINDER HEAD/VALVES:</b>				
Cylinder head mounting bolt/washer	10	9	48 (4.9, 35)	NOTE 8
Camshaft holder flange bolt	20	6	12 (1.2, 9)	NOTE 4
Cylinder head cover bolt	6	6	10 (1.0, 7)	
Breather plate flange bolt	3	6	12 (1.2, 9)	NOTE 2, 9
PAIR reed valve cover SH bolt	4	6	12 (1.2, 9)	NOTE 9
Cam sprocket flange bolt	4	7	20 (2.0, 14)	NOTE 2
Cam pulse generator rotor flange bolt	2	6	12 (1.2, 9)	NOTE 2
Cylinder head stud bolt (exhaust pipe stud bolt)	8	8	See page 1-14	
<b>CLUTCH/GEARSHIFT LINKAGE:</b>				
Clutch center lock nut	1	22	128 (13.1, 95)	NOTE 3, 4
Clutch spring bolt	5	6	12 (1.2, 9)	
Oil pump driven sprocket bolt	1	6	15 (1.5, 11)	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	22 (2.2, 16)	
<b>ALTERNATOR/STARTER CLUTCH:</b>				
Alternator stator socket bolt	4	6	12 (1.2, 9)	
Starter clutch outer socket bolt	6	8	16 (1.6, 12)	NOTE 2
Flywheel flange bolt	1	10	103 (10.5, 76)	NOTE 4
Starter wire clamp flange bolt	1	6	10 (1.0, 7)	NOTE 9
<b>CRANKCASE/TRANSMISSION:</b>				
Mainshaft bearing set plate bolt	2	6	12 (1.2, 9)	NOTE 2
Gearshift drum bearing/fork shaft set bolt	2	6	12 (1.2, 9)	NOTE 2
Crankcase bolt (Main journal)	10	9	27 (2.8, 20)	NOTE 8
Crankcase bolt	1	10	39 (4.0, 29)	
Crankcase bolt	14	6	12 (1.2, 9)	
Crankcase bolt	2	8	24 (2.4, 17)	
<b>CRANKSHAFT/PISTON/CYLINDER:</b>				
Connecting rod nut	8	8	34 (3.5, 25)	NOTE 4
<b>IGNITION SYSTEM:</b>				
Ignition pulse generator rotor cover bolt	6	8	10 (1.0, 7)	
Ignition pulse generator rotor special bolt	1	10	59 (6.0, 43)	
<b>ELECTRIC STARTER:</b>				
Starter motor terminal nut	1	6	12 (1.2, 9)	
<b>LIGHTS/METERS/SWITCHES:</b>				
Oil pressure switch	1	PT 1/8	12 (1.2, 9)	NOTE 1
Oil pressure switch wire terminal bolt/washer	1	4	2 (0.2, 1.4)	
Neutral switch	1	10	12 (1.2, 9)	

**GENERAL INFORMATION**

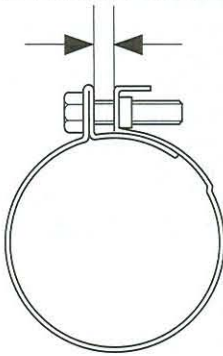
**Insulator clamp (Throttle body side):**

$7 \pm 1 \text{ mm}$  ( $0.3 \pm 0.04 \text{ in}$ )



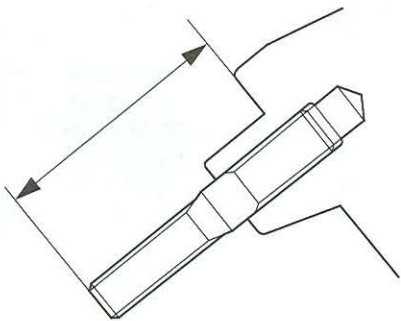
**Insulator clamp (Cylinder head side):**

$7 \pm 1 \text{ mm}$  ( $0.3 \pm 0.04 \text{ in}$ )



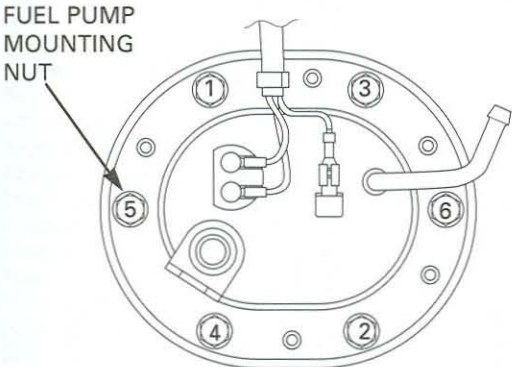
**Exhaust pipe stud bolt:**

$42.5 \pm 0.5 \text{ mm}$  ( $1.67 \pm 0.02 \text{ in}$ )





FRAME

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N•m (kgf•m, lbf•ft)	REMARKS
<b>FRAME BODY PANELS/EXHAUST SYSTEM:</b>				
Exhaust pipe joint flange nut	8	6	20 (2.0, 14)	
Exhaust pipe mounting nut	1	8	27 (2.8, 20)	
Muffler mounting flange bolt	2	8	27 (2.8, 20)	
Muffler band flange bolt	3	8	27 (2.8, 20)	
<b>FUEL SYSTEM (Programmed Fuel Injection):</b>				
Fuel tube banjo bolt (fuel tank side)	1	12	22 (2.2, 16)	
Fuel tube sealing nut (throttle body side)	1	12	22 (2.2, 16)	
Fuel pump mounting nut	6	6	12 (1.2, 9)	
 <p>FUEL PUMP MOUNTING NUT</p>				
<b>COOLING SYSTEM:</b>				
Cooling fan mounting nut	1	5	3 (0.27, 2.0)	NOTE 2
Fan motor mounting nut	3	5	5 (0.5, 3.6)	
<b>ENGINE MOUNTING:</b>				
Front engine hanger bolt/nut	2	10	50 (5.1, 37)	See page 7-10
Rear upper engine hanger bolt/nut	1	10	50 (5.1, 37)	
Rear lower engine hanger bolt/nut	1	10	50 (5.1, 37)	
Gear shift linkage bolt	1	5	20(2.0,14)	
<b>FRONT WHEEL/SUSPENSION/STEERING:</b>				
Handlebar weight mounting screw	2	6	10 (1.0, 7)	NOTE 6
Front brake disc bolt	12	6	20 (2.0, 14)	NOTE 6
Front axle bolt	1	14	59 (6.0, 43)	
Front axle holder flange bolt	4	8	22 (2.2, 16)	
Front brake hose clamp flange bolt (left front)	1	6	12 (1.2, 9)	
Front brake hose clamp flange bolt (right front)	1	6	12 (1.2, 9)	
Fork socket bolt	2	8	20 (2.0, 14)	NOTE 2
Fork bolt	2	39	22 (2.2, 16)	
Fork top bridge pinch socket bolt	2	8	22 (2.2, 16)	
Fork bottom bridge pinch flange bolt	2	10	39 (4.0, 29)	
Steering bearing adjusting nut	1	26	25 (2.5, 18)	See page 13-29
Steering bearing adjusting nut lock nut	1	26	—	
Steering stem nut	1	24	103 (10.5, 76)	
Front brake hose clamp bolt (steering stem)	1	6	10 (1.0, 7)	

**GENERAL INFORMATION**

**FRAME (Cont'd)**

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N•m (kgf•m, lbf•ft)	REMARKS
<b>REAR WHEEL/SUSPENSION:</b>				
Rear brake disc bolt	4	8	42 (4.3, 31)	NOTE 6
Final driven sprocket nut	5	12	108 (11.0, 80)	NOTE 5
Rear axle nut	1	18	93 (9.5, 69)	NOTE 5
Rear shock absorber upper mounting bolt	1	10	42 (4.3, 31)	
Rear shock absorber upper mounting nut	1	10	42 (4.3, 31)	NOTE 5
Drive chain slider flange bolt	2	6	9 (0.9, 6.5)	NOTE 6
Swingarm pivot nut	1	18	93 (9.5, 69)	
<b>HYDRAULIC BRAKE:</b>				
Front master cylinder reservoir cap screw	2	4	1 (0.1, 0.7)	
Front brake lever pivot bolt	1	6	1 (0.1, 0.7)	
Front brake lever pivot nut	1	6	6 (0.6, 4.3)	
Front brake light switch screw	1	4	1 (0.1, 0.7)	
Front master cylinder mounting bolt	2	6	12 (1.2, 9)	
Front brake caliper assembly torx bolt	8	8	32 (3.3, 24)	NOTE 2
Front brake caliper mounting flange bolt	4	8	30 (3.1, 22)	NOTE 6
Rear master cylinder push rod lock nut	1	8	17 (1.7, 12)	
Rear master cylinder mounting bolt	2	6	10 (1.0, 7)	
Rear brake caliper bracket bolt	1	8	23 (2.3, 17)	
Rear brake caliper pin bolt	1	12	27 (2.8, 20)	
Pad pin	3	10	17 (1.7, 12)	
Pad pin plug	1	10	3 (0.3, 2.2)	
Brake hose oil bolt	3	10	34 (3.5, 25)	
Brake caliper bleeder valve	3	8	6 (0.6, 4.3)	
Step holder mounting bolt	4	8	27 (2.8, 20)	
Rear master cylinder hose joint screw	2	6	10 (1.0, 7)	
<b>LIGHTS/METERS/SWITCHES:</b>				
Side stand switch bolt	1	6	10 (1.0, 7)	NOTE 6
Ignition switch mounting bolt	2	8	25 (2.5, 18)	
Fan motor switch	1	16	18 (1.8, 13)	NOTE 1
<b>OTHERS:</b>				
Side stand pivot bolt	1	10	10 (1.0, 7)	
Side stand pivot lock nut	1	10	39 (4.0, 29)	