HONDA

SERVICE MANUAL

2008

CBR1000RR

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.

⚠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.

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.

⚠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.

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.

HOW TO USE THIS MANUAL

This service manual describes the service procedures for the CBR1000RR.

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 (EPA) and California Air Resources Board (CARB) 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 21 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 23 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

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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 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

SERVICE RULES

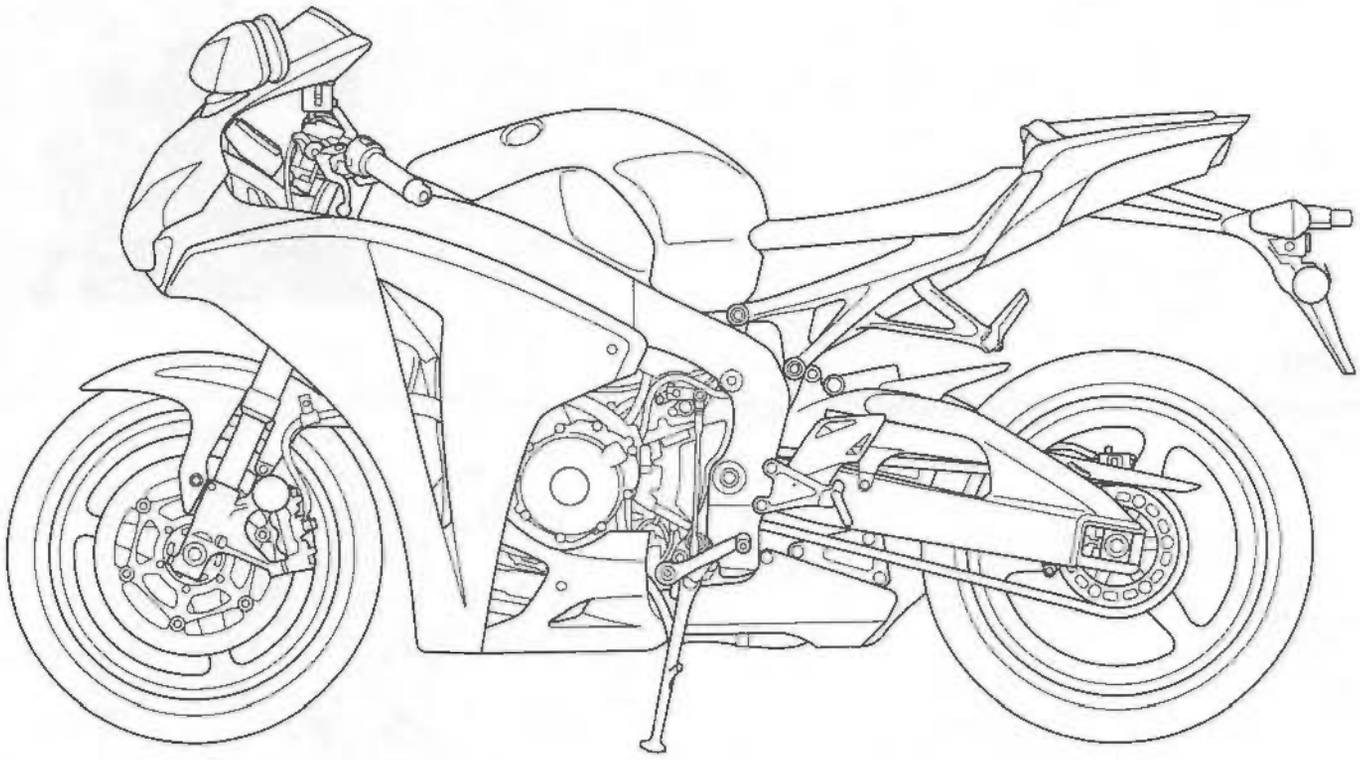
1. Use genuine Honda or Honda-recommended parts and lubricants or their equivalents. Parts that don't meet Honda's design specifications may cause damage to the motorcycle.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing 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 1-20).
9. Do not bend or twist control cables. Damaged control cables will not operates smoothly and may stick or bind.

ABBREVIATION

Throughout this manual, the following abbreviations are used to identify the respective parts or systems.

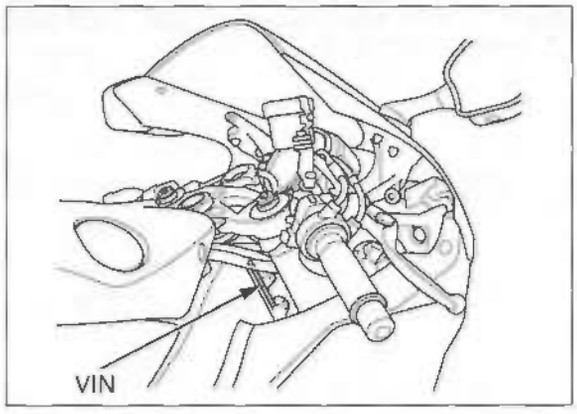
Abbrev. term	Full term
CKP sensor	Crankshaft Position sensor
CMP sensor	Camshaft Position sensor
DLC	Data Link Connector
DTC	Diagnostic Trouble Code
ECM	Engine Control Module
ECT sensor	Engine Coolant Temperature sensor
EEPROM	Electrically Erasable Programmable Read Only Memory
ECV	Exhaust Control Valve
ECV POT	Exhaust Control Valve Potentiometer
EGBV	Exhaust Gas Bypass Valve
EGCA	Exhaust Gas Control Actuator
EOP switch	Engine Oil Pressure switch
HDS	Honda Diagnostic System
HESD	Honda Electronic Steering Damper
IACV	Idle Air Control Valve
IAT sensor	Intake Air Temperature sensor
IDC solenoid valve	Intake Duct Control solenoid valve
MAP sensor	Manifold Absolute Pressure sensor
MIL	Malfunction Indicator Lamp
PAIR	Pulsed Secondary Air Injection
PGM-FI	Programmed Fuel Injection
SCS connector	Service Check Short connector
TP sensor	Throttle Position sensor
VS sensor	Vehicle Speed sensor

MODEL IDENTIFICATION



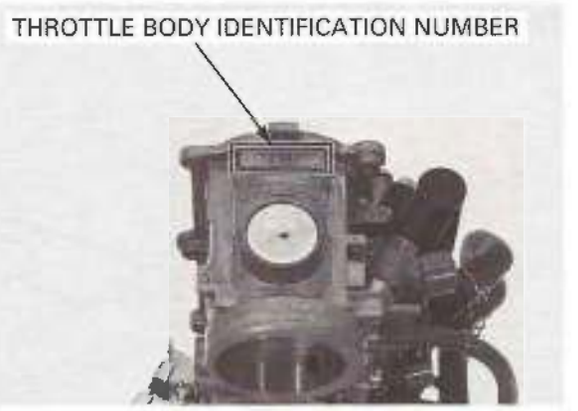
SERIAL NUMBERS

The Vehicle Identification Number (VIN) is stamped on the right side of the steering head as shown.



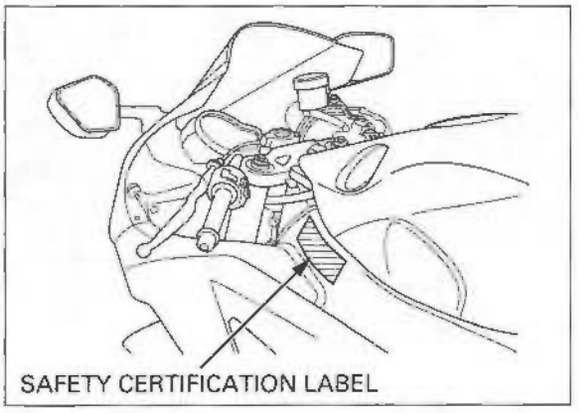
The engine serial number is stamped on the front side of the lower crankcase as shown.

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

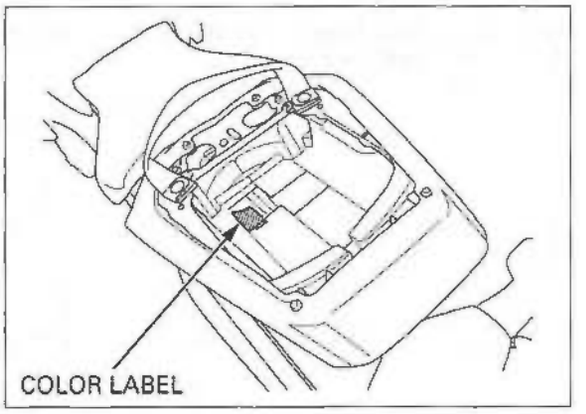


LABEL

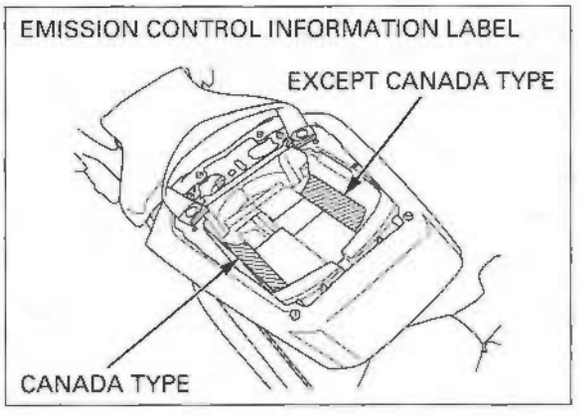
The Safety Certification Label is located on left side of the frame.



The color label is attached on the license light stay under the pillion seat as shown. When ordering color-coded parts, always specify the designated color code.



The Emission Control Information Label is located on the license light stay as shown.



GENERAL SPECIFICATIONS

ITEM				SPECIFICATIONS
DIMENSIONS	Overall length			2,080 mm (81.9 in)
	Overall width			685 mm (27.0 in)
	Overall height			1,130 mm (44.5 in)
	Wheelbase			1,410 mm (55.5 in)
	Seat height			820 mm (32.3 in)
	Footpeg height			396 mm (15.6 in)
	Ground clearance			130 mm (5.1 in)
	Curb weight	Except California type:		199 kg (439 lbs)
		California type:		200 kg (441 lbs)
	Maximum weight capacity			166 kg (366 lbs)
FRAME	Frame type			Diamond
	Front suspension			Telescopic fork
	Front axle travel			110 mm (4.3 in)
	Rear suspension			Swingarm
	Rear axle travel			138 mm (5.4 in)
	Front tire size			120/70ZR17 M/C (58W)
	Rear tire size			190/50ZR17 M/C (73W)
	Front tire brand		Bridgestone	BT015F RADIAL F
			Dunlop	Qualifier PTK
	Rear tire brand		Bridgestone	BT015R RADIAL F
			Dunlop	Qualifier NK
	Front brake			Hydraulic double disc
	Rear brake			Hydraulic single disc
	Caster angle			23° 18′
	Trail length			96.3 mm (3.8 in)
	Fuel tank capacity			17.7 liters (4.68 US gal, 3.89 Imp gal)
ENGINE	Cylinder arrangement			4 cylinders in-line, inclined 27.6° from vertical
	Bore and stroke			76.0 x 55.1 mm (2.99 x 2.17 in)
	Displacement			999 cm^3 (60.94 cu-in)
	Compression ratio			12.3 : 1
	Valve train			Chain driven, DOHC
	Intake valve	opens	at 1 mm (0.04 in) lift	21° BTDC
		closes	at 1 mm (0.04 in) lift	43° ABDC
	Exhaust valve	opens	at 1 mm (0.04 in) lift	41° BBDC
		closes	at 1 mm (0.04 in) lift	14° ATDC
	Lubrication system			Forced pressure and wet sump
	Oil pump type			Trochoid
	Cooling system			Liquid cooled
	Air filtration			Paper element
	Engine dry weight			62.5 kg (137.8 lbs)
	Firing order			1 - 2 - 4 - 3
FUEL DELIVERY SYSTEM	Type			PGM-FI
	Throttle bore			46 mm (1.8 in)
DRIVE TRAIN	Clutch system			Multi-plate, wet
	Clutch operation system			Cable operating
	Transmission			Constant mesh, 6-speeds
	Primary reduction			1.717 (79/46)
	Final reduction			2.625 (42/16)
	Gear ratio		1st	2.285 (32/14)
			2nd	1.777 (32/18)
			3rd	1.500 (33/22)
			4th	1.333 (32/24)
			5th	1.214 (34/28)
			6th	1.137 (33/29)
	Gearshift pattern			Left foot operated return system, 1 - N - 2 - 3 - 4 - 5 - 6