

The image features a dark background with several interlocking gears of various sizes and shades of gray. The Honda logo, a stylized wing, is positioned at the top left. The word "HONDA" is written in a bold, red, sans-serif font across the top. At the bottom right, the words "COMMON SERVICE MANUAL" are written in a smaller, red, sans-serif font.

HONDA

**COMMON
SERVICE MANUAL**

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 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 practices, we recommend 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 manual explains the theory of operation of the various systems common to Honda motorcycles, motor scooters, ATVs and PWCs. It also provides basic information on troubleshooting, inspection, and repair of components and systems found on these machines.

Refer to the Model Specific Service Manual for adjustments, maintenance, and repair information specific to the model you are servicing.

Sections 1 and 2 provide general information on the whole motorcycle as well as Warnings and Cautions to remember when performing maintenance and repairs.

Sections 3 through 15 cover all aspects of the engine and drive train.


Sections 16 through 20 include all of the component groups that make up the chassis.

Sections 21 through 25 apply to the various electrical components and systems found on Honda motorcycles.

Section 26 provides information and illustrations for a cooling system, turbocharger, and jet pump drive system for the Honda Personal Watercraft (PWC).

An extensive alphabetized Index provides rapid access to information on specific components or systems.

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.

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 whatsoever. 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 Publications Office

CONTENTS

	GENERAL INFORMATION	1
	MAINTENANCE	2
ENGINE AND DRIVE TRAIN	ENGINE TESTING	3
	LUBRICATION	4
	COOLING SYSTEM	5
	EXHAUST SYSTEM	6
	EMISSION CONTROL SYSTEMS	7
	FUEL SYSTEM	8
	CYLINDER HEAD/VALVES	9
	CYLINDER/PISTON	10
	CLUTCH	11
	V-MATIC BELT DRIVE SYSTEM	12
	TRANSMISSION/GEARSHIFT LINKAGE	13
	CRANKCASE/CRANKSHAFT	14
	FINAL DRIVE/OUTPUT SHAFT	15
CHASSIS	WHEEL/TIRES	16
	BRAKES	17
	FRONT SUSPENSION/STEERING	18
	REAR SUSPENSION	19
	FRAME/BODY PANELS	20
ELECTRICAL	ELECTRICAL FUNDAMENTALS	21
	BATTERY/CHARGING/LIGHTING SYSTEM	22
	IGNITION SYSTEMS	23
	ELECTRIC STARTER/STARTER CLUTCH	24
	LIGHTS/METERS/SWITCHES	25
	PWC	26
	INDEX	27

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.

	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 medium-strength locking agent unless otherwise specified.
	Use sealant.
	Replace the part(s) with new one(s) before assembly.
	Use DOT 3 or DOT 4 brake fluid. Use the recommended brake fluid unless otherwise specified.
	Use fork or suspension fluid.

ABBREVIATIONS

The following abbreviations may be used in this manual. They stand for:

Assy	Assembly
R	Right (Right side viewed from rear side)
L	Left (Left side viewed from rear side)
IN	Intake side/Inside
EX	Exhaust side/Exterior side
STD	Standard
OP.....	Optional
OS	Oversized
L (100L)	Number of links (100 links)
C2	Countershaft 2nd gear (Number indicates the stage of gear)
M5	Mainshaft 5th gear (Number indicates the stage of gear)
rpm	Revolutions per minute
BTDC	Before Top Dead Center
ATDC	After Top Dead Center
BBDC	Before Bottom Dead Center
ABDC	After Bottom Dead Center
AC	Alternating current
DC	Direct current
CDI	Capacitive discharge ignition
4P	Number of connector pins

The following letters or marks stamped on parts indicate the installation direction.

IN	Install with "IN" toward inside/exhaust side.
TOP	Install with "TOP" toward up. (Do not install with the letter upside down.)
UP	Install with the "UP" toward up. (Do not install with the letter upside down.)
UP \triangle	Install with the triangular mark facing/pointing up. (Some parts might be stamped with an arrow.)
F \leftarrow	Install with the arrow toward front. (Some parts might be stamped with a triangular mark.)
R (RH)	Install on the right side, viewed from rear side. If an arrow or triangular mark is stamped, install with the mark toward right.
L (LH)	Install on the left side, viewed from rear side. If an arrow or triangular mark is stamped, install with the mark toward left.
F (FR)	Indicates the front side of the vehicle.
R (RR)	Indicates the rear side of the vehicle.
OUT (OUTSIDE) ...	Install with the letter toward out.
LOWER	Indicates lower level.
UPPER (FULL)	Indicates upper level
\leftarrow	Indicates the rotating direction, if stamped on a rotating part.

If a punch mark (*) is stamped on a part, it indicates the installation direction or an alignment point. Pay attention to the mark when assembling.



1. GENERAL INFORMATION

GENERAL SAFETY	1-2	FASTENERS.....	1-9
SERVICE INFORMATION	1-4	BALL BEARING REPLACEMENT	1-20
SERVICE RULES	1-5		

GENERAL INFORMATION

GENERAL SAFETY

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 highly flammable and explosive. You can be burned or seriously injured when handling fuel.

- Stop the engine and keep heat, sparks, and flames away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

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 **call your local Poison Control Center or a physician immediately**.

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

Removing the radiator cap while the engine is hot can allow the coolant to spray out, seriously scalding you. Always let the engine and radiator cool down before removing the radiator cap.

NOTICE

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

- Add coolant at the reserve tank. Do not remove the radiator cap except to refill or drain the system.
- All cooling system services can be done with the engine in the frame.
- Avoid spilling coolant on painted surfaces.
- After servicing the system, check for leaks with a cooling system tester.
- If any coolant gets in your eyes, rinse them with water and consult a doctor immediately.
- If coolant is swallowed, induce vomiting, gargle and consult a physician immediately.
- If any coolant gets on your skin or clothes, rinse thoroughly with plenty of water.

BRAKE FLUID

NOTICE

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

