

# **Ninja ZX-10R**

## **Ninja ZX-10R ABS**

---

### **Motorcycle**

# **Service Manual**

---



**Kawasaki**



# Quick Reference Guide

<b>General Information</b>	<b>1</b>
<b>Periodic Maintenance</b>	<b>2</b>
<b>Fuel System (DFI)</b>	<b>3</b>
<b>Cooling System</b>	<b>4</b>
<b>Engine Top End</b>	<b>5</b>
<b>Clutch</b>	<b>6</b>
<b>Engine Lubrication System</b>	<b>7</b>
<b>Engine Removal/Installation</b>	<b>8</b>
<b>Crankshaft/Transmission</b>	<b>9</b>
<b>Wheels/Tires</b>	<b>10</b>
<b>Final Drive</b>	<b>11</b>
<b>Brakes</b>	<b>12</b>
<b>Suspension</b>	<b>13</b>
<b>Steering</b>	<b>14</b>
<b>Frame</b>	<b>15</b>
<b>Electrical System</b>	<b>16</b>
<b>Self-Diagnosis System</b>	<b>17</b>
<b>Appendix</b>	<b>18</b>

This quick reference guide will assist you in locating a desired topic or procedure.

- Bend the pages back to match the black tab of the desired chapter number with the black tab on the edge at each table of contents page.
- Refer to the sectional table of contents for the exact pages to locate the specific topic required.





# **Ninja ZX-10R** **Ninja ZX-10R ABS**

## **Motorcycle Service Manual**

---

All rights reserved. No parts of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic mechanical photocopying, recording or otherwise, without the prior written permission of Quality Assurance Division/Motorcycle & Engine Company/Kawasaki Heavy Industries, Ltd., Japan.

No liability can be accepted for any inaccuracies or omissions in this publication, although every possible care has been taken to make it as complete and accurate as possible.

The right is reserved to make changes at any time without prior notice and without incurring an obligation to make such changes to products manufactured previously. See your Motorcycle dealer for the latest information on product improvements incorporated after this publication.

All information contained in this publication is based on the latest product information available at the time of publication. Illustrations and photographs in this publication are intended for reference use only and may not depict actual model component parts.

## LIST OF ABBREVIATIONS

A	ampere(s)	KEBC	Kawasaki engine brake control
ABDC	after bottom dead center	KIBS	Kawasaki intelligent anti-lock brake system
ABS	anti-lock brake system	KLCM	Kawasaki launch control mode
AC	alternating current	km/h	kilometers per hour
Ah	ampere hour	S-KTRC	Sport-Kawasaki traction control
ATDC	after top dead center	KQS	Kawasaki quick shift
BBDC	before bottom dead center	L	liter(s)
BDC	bottom dead center	LCD	liquid crystal display
BTDC	before top dead center	LED	light emitting diode
°C	degree(s) Celsius	lb	pound(s)
CAN	controller area network	m	meter(s)
cmHg	centimeters of mercury	min	minute(s)
CPU	central processing unit	mmHg	millimeters of mercury
cu in.	cubic inch(es)	mph	miles per hour
DC	direct current	N	newton(s)
DFI	digital fuel injection	oz	ounce(s)
DOHC	double overhead camshaft	Pa	pascal(s)
DOT	department of transportation	PS	horsepower(s)
ECU	electronic control unit	psi	pound(s) per square inch
ESD	electronic steering damper	qt	quart(s)
F	farad(s)	r	revolution
°F	degree(s) Fahrenheit	rpm	revolution(s) per minute
ft	foot, feet	s	second(s)
g	gram(s)	TDC	top dead center
gal	gallon(s)	TIR	total indicator reading
h	hour(s)	V	volt(s)
HP	horsepower(s)	W	watt(s)
IC	integrated circuit	Ω	ohm(s)
in.	inch(es)		

## COUNTRY AND AREA CODES

AT	Austria
AU	Australia (with Evaporative Emission Control System)
CA	Canada
CAL	California (with Evaporative Emission Control System)
CH	Switzerland
DE	Germany
EUR	Europe
ID	Indonesia (with Evaporative Emission Control System)
MY	Malaysia (with Evaporative Emission Control System)
PH	Philippines (with Evaporative Emission Control System)
SEA-B1	Southeast Asia B1 (with Evaporative Emission Control System)
SEA-B3	Southeast Asia B3 (with Evaporative Emission Control System)
TH	Thailand (with Evaporative Emission Control System)
US	United States
WVTA (FULL)	WVTA Model (Full Power) (with Evaporative Emission Control System)

## EMISSION CONTROL INFORMATION

To protect the environment in which we all live, Kawasaki has incorporated crankcase emission (1) and exhaust emission (2) control systems in compliance with applicable regulations of the United States Environmental Protection Agency and California Air Resources Board. Additionally, Kawasaki has incorporated an evaporative emission control system (3) in compliance with applicable regulations of the California Air Resources Board on vehicles sold in California only.

### 1. Crankcase Emission Control System

This system eliminates the release of crankcase vapors into the atmosphere. Instead, the vapors are routed through an oil separator to the intake side of the engine. While the engine is operating, the vapors are drawn into combustion chamber, where they are burned along with the fuel and air supplied by the fuel injection system.

### 2. Exhaust Emission Control System

This system reduces the amount of pollutants discharged into the atmosphere by the exhaust of this motorcycle. The fuel, ignition, and exhaust systems of this motorcycle have been carefully designed and constructed to ensure an efficient engine with low exhaust pollutant levels.

The exhaust system of this model motorcycle manufactured primarily for sale in California includes a catalytic converter system.

### 3. Evaporative Emission Control System

Vapors caused by fuel evaporation in the fuel system are not vented into the atmosphere. Instead, fuel vapors are routed into the running engine to be burned, or stored in a canister when the engine is stopped.

The Clean Air Act, which is the Federal law covering motor vehicle pollution, contains what is commonly referred to as the Act's "tampering provisions."

"Sec. 203(a) The following acts and the causing thereof are prohibited.

(3)(A) for any person to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title prior to its sale and delivery to the ultimate purchaser, or for any manufacturer or dealer knowingly to remove or render inoperative any such device or element of design after such sale and delivery to the ultimate purchaser.

(3)(B) for any person engaged in the business of repairing, servicing, selling, leasing, or trading motor vehicles or motor vehicle engines, or who operates a fleet of motor vehicles knowingly to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title following its sale and delivery to the ultimate purchaser..."

### NOTE

○The phrase "remove or render inoperative any device or element of design" has been generally interpreted as follows.

1. Tampering does not include the temporary removal or rendering inoperative of devices or elements of design in order to perform maintenance.
2. Tampering could include.
  - a. Maladjustment of vehicle components such that the emission standards are exceeded.
  - b. Use of replacement parts or accessories which adversely affect the performance or durability of the motorcycle.
  - c. Addition of components or accessories that result in the vehicle exceeding the standards.
  - d. Permanently removing, disconnecting, or rendering inoperative any component or element of design of the emission control systems.

**WE RECOMMEND THAT ALL DEALERS OBSERVE THESE PROVISIONS OF FEDERAL LAW, THE VIOLATION OF WHICH IS PUNISHABLE BY CIVIL PENALTIES NOT EXCEEDING \$10 000 PER VIOLATION.**

## **TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED**

Federal law prohibits the following acts or the causing thereof. (1) The removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below.

- Replacement of the original exhaust system or muffler with a component not in compliance with Federal regulations.
- Removal of the muffler(s) or any internal portion of the muffler(s).
- Removal of the air box or air box cover.
- Modifications to the muffler(s) or air intake system by cutting, drilling, or other means if such modifications result in increased noise levels.



# Foreword

This manual is designed primarily for use by trained mechanics in a properly equipped shop. However, it contains enough detail and basic information to make it useful to the owner who desires to perform his own basic maintenance and repair work. A basic knowledge of mechanics, the proper use of tools, and workshop procedures must be understood in order to carry out maintenance and repair satisfactorily. Whenever the owner has insufficient experience or doubts his ability to do the work, all adjustments, maintenance, and repair should be carried out only by qualified mechanics.

In order to perform the work efficiently and to avoid costly mistakes, read the text, thoroughly familiarize yourself with the procedures before starting work, and then do the work carefully in a clean area. Whenever special tools or equipment are specified, do not use makeshift tools or equipment. Precision measurements can only be made if the proper instruments are used, and the use of substitute tools may adversely affect safe operation.

**For the duration of the warranty period,** we recommend that all repairs and scheduled maintenance be performed in accordance with this service manual. Any owner maintenance or repair procedure not performed in accordance with this manual may void the warranty.

To get the longest life out of your vehicle.

- Follow the Periodic Maintenance Chart in the Service Manual.
- Be alert for problems and non-scheduled maintenance.
- Use proper tools and genuine Kawasaki Motorcycle parts. Special tools, gauges, and testers that are necessary when servicing Kawasaki motorcycles are introduced by the Service Manual. Genuine parts provided as spare parts are listed in the Parts Catalog.
- Follow the procedures in this manual carefully. Don't take shortcuts.
- Remember to keep complete records of maintenance and repair with dates and any new parts installed.

## How to Use This Manual

In this manual, the product is divided into its major systems and these systems make up the manual's chapters. The Quick Reference

Guide shows you all of the product's system and assists in locating their chapters. Each chapter in turn has its own comprehensive Table of Contents.

For example, if you want ignition coil information, use the Quick Reference Guide to locate the Electrical System chapter. Then, use the Table of Contents on the first page of the chapter to find the Ignition Coil section.

Whenever you see symbols, heed their instructions! Always follow safe operating and maintenance practices.

### **DANGER**

**DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.**

### **WARNING**

**WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.**

### **NOTICE**

**NOTICE is used to address practices not related to personal injury.**

This manual contains four more symbols which will help you distinguish different types of information.

### **NOTE**

○ *NOTE indicates information that may help or guide you in the operation or service of the vehicle.*

- Indicates a procedural step or work to be done.
- Indicates a procedural sub-step or how to do the work of the procedural step it follows. It also precedes the text of a NOTE.
- ★ Indicates a conditional step or what action to take based on the results of the test or inspection in the procedural step or sub-step it follows.

In most chapters an exploded view illustration of the system components follows the Table of Contents. In these illustrations you will find the instructions indicating which parts require specified tightening torque, oil, grease or a locking agent during assembly.