



**KDX200**


**Motorcycle  
Service Manual**

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## LIST OF ABBREVIATIONS

A	ampere(s)	lb	pound(s)
ABDC	after bottom dead center	m	meter(s)
AC	alternating current	min	minute(s)
ATDC	after top dead center	N	newton(s)
BBDC	before bottom dead center	Pa	pascal(s)
BDC	bottom dead center	PS	horsepower
BTDC	before top dead center	psi	pound(s) per square inch
°C	degree(s) Celcius	r	revolution
DC	direct current	rpm	revolution(s) per minute
F	farad(s)	TDC	top dead center
°F	degree(s) Fahrenheit	TIR	total indicator reading
ft	foot, feet	V	volt(s)
g	gram(s)	W	watt(s)
h	hour(s)	Ω	ohm(s)
L	liter(s)		

### (U. K. model only)



WARNING  
CONTAINS  
ASBESTOS

Breathing asbestos  
dust is dangerous  
to health

Follow safety  
instructions

This warning may apply to any of the following components or any assembly containing one or more of these components:—

- Brake Shoes or Pads
- Clutch Friction Material
- Gaskets
- Insulators

**SAFETY INSTRUCTIONS**

- Operate if possible out of doors or in a well ventilated place.
- Preferably use hand tools or low speed tools equipped, if necessary, with an appropriate dust extraction facility. If high speed tools are used, they should always be so equipped.
- If possible, dampen before cutting or drilling.
- Dampen dust and place it in properly closed receptacle and dispose of it safely.

**Read OWNER'S MANUAL before operating.**

# 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.

We recommend that all repairs and scheduled maintenance be performed in accordance with this service manual.

To get the longest life out of your motorcycle:

- 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 Special Tool 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 preparing this manual, we divided the product into its major systems. These systems became the manual's chapters. All information for a particular system from adjustment through disassembly and inspection is located in a single chapter.

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.

The Periodic Maintenance Chart is located in the General Information chapter. The chart gives a time schedule for required maintenance operations.

If you want spark plug information, for example, go to the Periodic Maintenance Chart first. The chart tells you how frequently to clean and gap the plug. Next, 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 Spark Plug section.

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

### WARNING

- This warning symbol identifies special instructions or procedures which, if not correctly followed, could result in personal injury, or loss of life.

### CAUTION

- This caution symbol identifies special instructions or procedures which, if not strictly observed, could result in damage to or destruction of equipment.

This manual contains five more symbols (in addition to WARNING and CAUTION) which will help you distinguish different types of information.

## NOTE

○ *This note symbol indicates points of particular interest for more efficient and convenient operation.*

● Indicate 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 WARNING, CAUTION, or 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.

☆ Indicates a conditional sub-step or what action to take based upon the results of the conditional 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.

## Quick Reference Guide

<b>General Information</b>	<b>1</b>
<b>Fuel System</b>	<b>2</b>
<b>Cooling System</b>	<b>3</b>
<b>Engine Top End</b>	<b>4</b>
<b>Engine Right Side</b>	<b>5</b>
<b>Engine Removal/Installation</b>	<b>6</b>
<b>Engine Bottom End/Transmission</b>	<b>7</b>
<b>Wheels/Tires</b>	<b>8</b>
<b>Final Drive</b>	<b>9</b>
<b>Brakes</b>	<b>10</b>
<b>Suspension</b>	<b>11</b>
<b>Steering</b>	<b>12</b>
<b>Electrical System</b>	<b>13</b>
<b>Appendix</b>	<b>14</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.

# General Information

## Table of Contents

Before Servicing .....	1-2
Model Identification .....	1-4
General Specifications .....	1-5
Periodic Maintenance Chart .....	1-7
Torque and Locking Agent .....	1-8
Cable, Harness, Hose Routing .....	1-11

## 1-2 GENERAL INFORMATION

### Before Servicing

Before starting to service a motorcycle, careful reading of the applicable section is recommended to eliminate unnecessary work. Photographs, diagrams, notes, cautions, warnings, and detailed descriptions have been included wherever necessary. Nevertheless, even a detailed account has limitations, a certain amount of basic knowledge is also required for successful work.

Especially note the following:

- (1) **Dirt**

Before removal and disassembly, clean the motorcycle. Any dirt entering the engine or other parts will work as an abrasive and shorten the life of the motorcycle. For the same reason, before installing a new part, clean off any dust or metal filings.
- (2) **Tightening Sequence**

Generally, when installing a part with several bolts, nuts, or screws, they should all be started in their holes and tightened to a snug fit. Then tighten them evenly in a cross pattern. This is to avoid distortion of the part and/or causing gas or oil leakage. Conversely when loosening the bolts, nuts, or screws, first loosen all of them by about a quarter of turn and then remove them.

Where there is a tightening sequence indication in this Service Manual, the bolts, nuts, or screws must be tightened in the order and method indicated.
- (3) **Torque**

The torque values given in this Service Manual should always be adhered to. Either too little or too much torque may lead to serious damage. Use a good quality, reliable torque wrench.
- (4) **Force**

Common sense should dictate how much force is necessary in assembly and disassembly. If a part seems especially difficult to remove or install, stop and examine what may be causing the problem. Whenever tapping is necessary, tap lightly using a wooden or plastic faced mallet. Use an impact driver for screws (particularly for the removal of screws held by a locking agent) in order to avoid damaging the screw heads.
- (5) **Edges**

Watch for sharp edges, especially during major engine disassembly and assembly. Protect your hands with gloves or a piece of thick cloth when lifting the engine or turning it over.
- (6) **High Flash-point Solvent**

A high flash-point solvent is recommended to reduce fire danger. A commercial solvent commonly available in North America is Stoddard solvent (generic name). Always follow manufacturer and container directions regarding the use of any solvent.
- (7) **Gasket, O-ring**

Do not reuse a gasket or O-ring once it has been in service. The mating surfaces around the gasket should be free of foreign matter and perfectly smooth to avoid oil or compression leaks.
- (8) **Liquid Gasket, Non-permanent Locking Agent**

Follow manufacturer's directions for cleaning and preparing surfaces where these compounds will be used. Apply sparingly. Excessive amounts may block engine oil passages and cause serious damage. An example of a non-permanent locking agent commonly available in North America is Loctite Lock N' Seal (Blue).
- (9) **Press**

A part installed using a press or driver, such as a wheel bearing, should first be coated with oil on its outer or inner circumference so that it will go into place smoothly.
- (10) **Ball Bearing**

When installing a ball bearing, the bearing race which is affected by friction should be pushed by a suitable driver. This prevents severe stress on the balls and races, and prevents races and balls from being dented. Press a ball bearing until it stops at the stop in the hole or on the shaft.

(11) Oil Seal and Grease Seal

Replace any oil or grease seals that were removed with new ones, as removal generally damages seals. When pressing in a seal which has manufacturer's marks, press it in with the marks facing out. Seals should be pressed into place using a suitable driver, which contacts evenly with the side of the seal, until the face of the seal is even with the end of the hole.

(12) Seal Guide

A seal guide is required for certain oil or grease seals during installation to avoid damage to the seal lips. Before a shaft passes through a seal, apply a little oil, preferably high temperature grease on the lips to reduce rubber to metal friction.

(13) Circlip, Retaining Ring

Replace any circlips and retaining rings that were removed with new ones, as removal weakens and deforms them. When installing circlips and retaining rings, take care to compress or expand them only enough to install them and no more.

(14) Cotter Pin

Replace any cotter pins that were removed with new ones, as removal deforms and breaks them.

(15) Lubrication

Engine wear is generally at its maximum while the engine is warming up and before all the rubbing surfaces have an adequate lubricative film. During assembly, oil or grease (whichever is more suitable) should be applied to any rubbing surface which has lost its lubricative film. Old grease and dirty oil should be cleaned off. Deteriorated grease has lost its lubricative quality and may contain abrasive foreign particles.

Don't use just any oil or grease. Some oils and greases in particular should be used only in certain applications and may be harmful if used in an application for which they are not intended. This manual makes reference to molybdenum disulfide grease (MoS<sub>2</sub>) in the assembly of certain engine and chassis parts. Always check manufacturer recommendations before using such special lubricants.

(16) Electrical Wires

All the electrical wires are either single-color or two-color and, with only a few exceptions, must be connected to wires of the same color. On any of the two-color wires there is a greater amount of one color and a lesser amount of a second color, so a two-color wire is identified by first the primary color and then the secondary color. For example, a yellow wire with thin red strips is referred to as a "yellow/red" wire; it would be a "red/yellow" wire if the colors were reversed to make red the main color.

Wire (cross-section)	Name of Wire Color
<p style="margin-left: 100px;">Red</p> <p style="margin-left: 100px;">Wire strands</p> <p style="margin-left: 100px;">Yellow</p> <p style="margin-left: 100px;">Red</p>	<p>Yellow/red</p>

(17) Replacement Parts

When there is a replacement instruction, replace these parts with new ones every time they are removed. These replacement parts will be damaged or lose their original function once removed.

(18) Inspection

When parts have been disassembled, visually inspect these parts for the following conditions or other damage. If there is any doubt as to their condition, replace them with new ones.

- |              |               |           |      |
|--------------|---------------|-----------|------|
| Abrasion     | Crack         | Hardening | Warp |
| Bent         | Dent          | Scratch   | Wear |
| Color change | Deterioration | Seizure   |      |

(19) Service Data

Numbers of service data in this text have the following meanings:

"Standards": Show dimensions or performances which brand-new parts or systems have.

"Service limits": Indicate the usable limits. If the measurement shows excessive wear or deteriorated performance, replace the damaged parts.



**1-4 GENERAL INFORMATION**

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**Model Identification**

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**KDX200-E1 Left Side View**



**KDX200-E1 Right Side View**



.....  
**General Specifications**  
 .....

Items	KDX200-E1
<b>Dimensions:</b>	
Overall length	2130 mm
Overall width	890 mm
Overall height	1250 mm
Wheelbase	1450 mm
Road clearance	340 mm
Seat height	910 mm
Dry weight	102 kg
Curb weight: Front	53 kg
Rear	58 kg
Fuel tank capacity	12.0 L
<b>Engine:</b>	
Type	2-stroke, single cylinder, piston reed valve
Cooling system	Liquid-cooled
Bore and stroke	66.0 x 58.0 mm
Displacement	198 mL
Compression ratio	7.7:1 (high speed), 9.2:1 (low speed)
Maximum horsepower	26.5 kW (36PS) @ 7500 r/min (rpm)
Maximum torque	34.3 N-m(3.5 kg-m, 25.3 ft-lb) @ 7000 r/min (rpm)
Carburetion system	Carburetor, KEIHIN PWK 35
Starting system	Primary kick
Ignition system	CDI
Ignition timing	21° BTDC @ 6000 r/min (rpm)
Spark plug	NGK B9ES © ⊕ NGK BR9ES
Port timing: Inlet	Open
	Close
Scavenging	Open
	Close
Exhaust	Open
	Close
Lubrication system	Petrol mix (32:1)
<b>Drive Train:</b>	
Primary reduction system:	
Type	Gear
Reduction ratio	2.863 (63/22)
Clutch type	Wet, multi disc
Transmission: Type	6-speed, constant mesh, return shift
Gear ratios: 1st	2.692 (35/13)
	2nd
	3rd
	4th
	5th
	6th
Final drive system: Type	Chain drive
Reduction ratio	3.615 (47/13)
Overall drive ratio	9.002 @ Top gear
Transmission oil: Grade	SE class
Viscosity	SAE 10W30 or 10W40
Capacity	0.75 L

(Continued on next page.)