



**Kawasaki Ninja ZX-6RR**

# **2005 Ninja ZX-6RR Racing Kit Manual**

This manual contains only the information of the racing kit parts. Refer to the base manual listed below for information of the original model.

<b>Base Manual</b>	<b>Part Number</b>
Ninja ZX-6RR Motorcycle Service Manual	99924-1346-01

Congratulation on your purchase of racing kit parts for the 2005 Ninja ZX-6RR.

### IMPORTANT

This manual provides how to install racing kit parts for the 2005 Ninja ZX-6RR and how to tune up basically.

As for the basic knowledge, refer to the base Service Manual for the Ninja ZX-6RR (P/No. 99924-1346-01).

When you participate in a race, it is necessary to modify the machine for the regulation. So we want you to ask for the tuning up shop.

#### WARNING

AFTER ANY MODIFICATION TO TUNE THE VEHICLE TO A COMPETITION MACHINE, IT SHOULD NOT BE USED ON PUBLIC STREETS, ROADS OR HIGHWAYS. THE USE OF THIS VEHICLE SHOULD BE LIMITED TO PARTICIPATION IN SANCTIONED COMPETITION EVENTS UPON A CLOSED COURSE.

#### CAUTION

When operating the engine, be careful not to trouble persons with noise. Do not turn the engine with loud engine and exhaust noise.

### DISCLAIMER OF WARRANTY

ON OPTIONAL TUNING PARTS FOR RACING ARE NO WARRANTIES EXPRESSED OR IMPLIED.

### BASIC WORKS IN INSTALLING KIT PARTS

We are going to make up the original Ninja ZX-6RR for the racing machine. We recommend that the rider himself should do the basic works, removing parts or installing parts etc., given advices by the tuning shop. In a race, although trouble will be apt to happen, if you participate in basic works, you can discriminate cause of trouble, so you can return the race soon.

But concerning difficult technical works, you should as tuning shop.

## Table of Contents

General Specifications .....	3
Racing Kit Service Data .....	5
Periodic Maintenance Chart.....	5
Preparation .....	7
Before Installing .....	7
Racing Kit Parts .....	7
Engine Parts Installation .....	7
Air Intake Parts .....	7
Cylinder Head.....	9
Camshaft Chain Tensioner .....	11
Camshafts, Sprockets.....	12
Valve Springs.....	12
Cylinder Compression .....	13
Crankshaft Main Journal and Con-rod Big End Bushings.....	15
Connecting Rod Bolts .....	15
Clutch Adjustment (Back-Torque Limiter Setting) .....	16
Transmission .....	20
Transmission Shimming.....	20
Generator (Kit).....	22
Generator Cover (Kit) .....	22
Cover Gaskets.....	22
Ducts (Air Funnels).....	22
Muffler.....	22
Water Temperature Sensor.....	22
Radiator (Kit) .....	22
Radiator Installation .....	23
Radiator Installation .....	24
Reserve Tank Installation.....	25
Frame Parts Installation .....	26
Throttle Parts (Kit).....	26
Final Drive Parts (Kit).....	27
Brake Pads (Kit).....	28
Steering Damper (Kit).....	28
Seat Height Adjustment.....	29
Front Fork Springs (Kit) .....	31
Electric Parts Installation.....	33
Battery .....	33
Main Harness and Sub Harness (Kit) .....	33
Meter (Kit) Installation.....	33
Wiring Routing .....	36
Wiring Diagram (with Kit Meter).....	42
Wiring Diagram (with Original Meter Assembly) .....	44
Wiring Diagram (Sub Harness) .....	46

## General Specifications

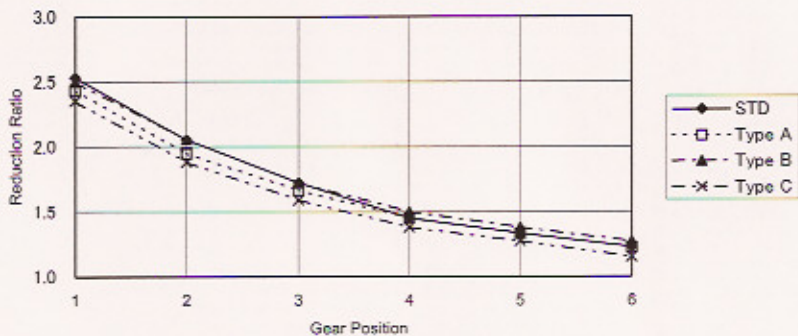
Item	2005 Ninja ZX-6RR Racing
<b>Engine:</b>	
Ignition timing	12.5°BTDC @1 300 r/min (rpm)
Fuel (Recommended)	Racing gasoline
Engine oil (Recommended): Level	Racing oil Between upper and lower levels of oil level gauge.
<b>Drive Train:</b>	
Primary drive reduction ratio	1.891 (87/46)

### Transmission Gear Table

		Original	Type A	Type B	Type C
1st	In	13127-0033	13127-0033	13127-0034	13127-00135
	Out	13262-0297	13260-1619 *	13260-1543	13262-0034
	Teeth (Out/In)	39/16	39/16	35/14	40/17
	Gear Ratio	2.437	2.437	2.500	2.352
2nd	In	13260-1987	23262-0091	13260-1987	13262-0035
	Out	13260-1992	13262-0092	13260-1992	13262-0036
	Teeth (Out/In)	37/18	37/19	Original	32/17
	Gear Ratio	2.055	1.947	2.055	1.822
3rd	In	13262-0143	see note	see note	see note
	Out	13260-1993	13262-0038	13260-1993	13262-0038
	Teeth (Out/In)	31/18	35/21	Original	35/22
	Gear Ratio	1.722	1.666	1.722	1.590
4th	In	13262-0143	see note	see note	see note
	Out	13262-0044	13260-1994	13262-0044	13262-0090
	Teeth (Out/In)	33/22	29/20	Original	29/21
	Gear Ratio	1.500	1.450	1.500	1.380
5th	In	13262-0144	Original	13262-0144	13262-0110
	Out	13262-0150		13262-0047	13260-1995
	Teeth (Out/In)	28/21		29/21	28/22
	Gear Ratio	1.333		1.380	1.272
6th	In	13262-0188	Original	13262-0188	13260-1990
	Out	13262-0187		13262-0050	13262-0254
	Teeth (Out/In)	27/22		28/22	30/26
	Gear Ratio	1.227		1.272	1.153

### Note:

		4th gear type		
		A	B	C
3rd gear type	A	13262-0145 (A-A)	13262-0149 (A-B)	13262-0147 (A-C)
	B	13262-0109 (B-A)	13262-0143 (B-B)	NA (B-C)
	C	13262-0148 (C-A)	NA (C-B)	13262-0146 (C-C)



### Number of Grooves

		STD	Type A	Type B	Type C
1st	In	4	1	2	3
	Out	1	1	2	3
2nd	In	1	2	1	3
	Out	0	2	0	3
3rd	In	0	1	0	2
	Out	0	1	0	1
4th	In	3	0	3	0
	Out	2	0	2	3
5th	In	3	3	3	2
	Out	3	3	2	1
6th	In	3	3	3	2
	Out	3 or 1	3 or 1	2	1

\*: 1st gear out – STD is interchangeable with type A.

## Racing Kit Service Data

Item	Standard
<b>Cylinder Head, Valves:</b>	
Duration:	
Intake	320°
Exhaust	272°
Camshaft timing (cam lift center):	
Intake	105° (ATDC)
Exhaust	105° (BTDC)
Valve clearance:	
Intake	0.18 mm
Exhaust	0.28 mm
Valve to piston clearance:	
Intake	0.7 mm (Minimum) @12°ATDC
Exhaust	1.4 mm (Minimum) @12°BTDC
<b>Ignition System:</b>	
Spark plugs	NGK R016-10, R0373A-10
Spark plug tightening torque	13 N·m (1.3 kgf·m, 113 in·lb)

These values show the specifications when standard cylinder head and gasket are used.

When the clearance between the valve and the piston head is smaller than the minimum specific values, turn the installed position of the camshaft sprocket on the camshaft and change the camshaft timing.

## Periodic Maintenance Chart

The scheduled maintenance must be done in accordance with this chart to keep the motorcycle in good running condition.

OPERATION	FREQUENCY	Each	Every	Every	Every	As Required
		Race (300 km)	3 races (1 000 km)	5 races (1 500 km)	10 races (3 000 km)	
<b>Engine</b>						
Clutch plate - - check*		•				
Throttle grip play - - check*		•				
Spark plug - - clean/gap*		•				
Engine oil - - change		•				
Oil filter - - replace		•				
Valve lapping				•		
Cylinder head/valve - - decarbonization				•		