

2004 Model Information

MARKETING CODE: **ZX600M**

MODEL NAME: **Ninja ZX-6RR**



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All data reflect factory tests. All data subject to change without notice.

OVERALL CONCEPT

In keeping with its original concept of No. 1 performance on the circuit, for 2004, the concept of the Ninja ZX-6RR diverges from that of the street-use 6R, becoming even more race-oriented than before. A series of engine and chassis upgrades significantly enhance this lime green racer's winning potential.



The main differences between the 04 Ninja ZX-6RR (ZX600M) and 03 Ninja ZX-6RR (ZX600K) can be described as follows:

- **Increased Racing Potential:**

- Power boosting improvements include a new cylinder head with bigger valves, hotter cams and a new twin-injector fuel injection system. These are backed by a host of detail modifications that contribute to significantly increased power output, particularly at high rpm.
- To better suit the machine for non-modified stock racing classes, the transmission gets closer ratios similar to those of the racing kit transmission.
- Already rated as the top-handling chassis on the track – thanks in part to the class's only adjustable swingarm pivot – for 2004 the chassis benefits from feedback from our team racing bikes. New settings for the fork improve both damping and action, and a new coating on the fork inner tubes reduces friction for improved action when braking.

- **Other updates:**

- To complement the 04 6RR's racier performance, the bike sports a matt-black frame and swingarm, and a racy-looking lime-green drive chain.

Whether in stock or modified form, the new Ninja ZX-6RR will be the machine to beat in 2004. The Ninja ZX-6RR's other key sales features can be summarised as follows:

- **Race-Oriented Handling Characteristics** – Other features that contribute to the Ninja ZX-6RR's race performance include: track-oriented riding position, adjustable swingarm pivot, fully adjustable front and rear suspension, and radial-mount front brake callipers.

- **Racy Ninja Look** – From the central Ram Air duct to the aerodynamically shaped tail section, the 6RR's predatory lines leave no doubt that the middle-class Ninja was designed with racing in mind.

KEY SALES FEATURES NEW FOR 2004

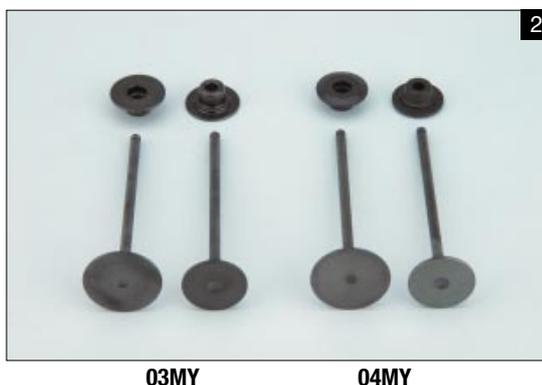
INCREASED RACING POTENTIAL

Engine

- * Upgraded, liquid-cooled, DOHC, 16-valve 599 cm³ In-Line Four engine delivers increased performance, especially in the high rpm ranges.
- * New cylinder head design uses squish-type combustion chambers, larger valves and revised intake ports. (Intake valves: + 0.5 mm)
- * Improved twin-injector fuel injection system uses a fine atomising injector for the main injector and features a secondary injector located in the airbox. The result is improved cylinder filling, crisper throttle response and higher power output.
- * New breathing passageways in the cylinders improve crankcase breathing and reduce pumping loss. (Photo 1)



- * New intake and exhaust camshafts have higher lift for more performance in the higher rpm ranges.
- * New single valve springs suit the higher lift cams; oval wire is used to realise a short cylinder head.
- * Valve spring retainers changed to lightweight sintered aluminium to reduce reciprocating weight. (Photo 2)



- * The piston crown shape was changed to suit the revised combustion chambers, and a molybdenum coating added to the piston skirts reduces friction loss. (Photo 3)
- * Redesigned airbox has a removable duct which, when removed, reduces intake resistance, contributing to higher power output.
- * The ratios for the oil and water pump gears have been changed to reduce mechanical loss.

Transmission

- * New, close-ratio transmission has gear ratios similar to that of the racing kit's transmission, giving the new ZX-6RR even more race-winning potential, right out of the crate.

Suspension

- * A new super-hard DLC coating (Diamond-Like Carbon) has been added to the outer surface of the inner fork tubes to reduce sliding friction (stiction) and improve action, especially in situations where the suspension is subjected to heavy loads, such as during braking or when banked over. While the coating provides its greatest benefits on the racetrack, street riding is also notably smoother. The increased surface hardness also helps to prevent scratches and damage to the tubes. (Photo 4)



- * By moving the fork's main spring from the top to the bottom and redesigning the oil lock piece, fork action has been improved.
- * New damping rates enhance road surface feedback and fork action.
- * The rear suspension's spring now has an electrostatic undercoat to prevent corrosion.

KEY SALES FEATURES MAINTAINED FROM ZX600K

RACE-ORIENTED HANDLING CHARACTERISTICS

Frame

- * All-aluminium perimeter frame offers exceptional strength and torsional rigidity while delivering responsive and stable handling performance.
- * Forward-located swingarm pivot and long swingarm give superb rear suspension action.
- * Adjustable swingarm pivot allows racers to adjust the chassis to their riding style and to the prevailing track conditions.
- * Centrally mounted Ram Air duct is integral with the steering head. This simplified design reduces weight and improves Ram Air efficiency. It also allows the frontal area to be reduced via a narrow, aerodynamically efficient front cowl.
- * Extruded aluminium swingarm with internal ribbing offers high stiffness and low weight.
- * Steering head uses ball bearings for light, responsive steering.

Suspension

- * Fully adjustable inverted front fork runs stiff 41 mm tubes for high fork rigidity and superior steering feedback.
- * Race-developed Bottom-Link type Uni-Trak rear suspension delivers a smooth ride and excellent cornering performance.
- * Nitrogen gas-charged rear shock with piggyback reservoir is fully adjustable for rebound/compression damping and preload.
- * Both front and rear suspension are fitted with top-out springs for stable suspension performance. Because the top-out springs regulate suspension elongation, the rider will also experience less nose dive feel under heavy braking after hard acceleration, as well as greater stability when getting back on the gas after hard braking.

Brakes

- * Radial-mounted, 4-piston front brake callipers deliver exceptional feel and performance – widely used in racing, the 03MY 6R and 6RR were the first production bikes in their class to feature this style of brake calliper. Four independent brake pads are used – one for each piston – for more even wear and improved heat resistance.
- * Semi-floating, drilled, 280 mm stainless steel front disc rotors are 6 mm thick for high heat capacity and mount on disc carriers without offset to reduce weight.
- * Brake lever is 5-way adjustable.
- * Small diameter rear brake disc measures 220 mm in diameter for low unsprung weight.
- * Compact, lightweight rear brake calliper mounts directly to the swingarm, negating the need for an independent brake tie-rod.

Wheels/Tyres

- * Lightweight front and rear wheels contribute to low unsprung weight.
- * Rear wheel features wide 5.5-inch rim. Front rim measures 3.5 inches.
- * High-spec front and rear tyres deliver exceptional cornering performance.

Tyre sizes:

Front: 120/65ZR17M/C (56W)

Rear: 180/55ZR17M/C (73W)

Transmission

- * A back-torque limiter fitted to the clutch helps prevent wheel hop during quick deceleration.

Ergonomics

- * Riding position is track oriented. Handlebar, seat and footpeg locations give an ideal position for high performance riding. Ergonomically shaped seat and tank allow rider to mould himself to the bike.

RACY NINJA LOOK

Bodywork

- * GP-style fairing gives the machine a distinctively racy look.
- * Fairing offers a low drag coefficient for superior aerodynamics.
- * “Hungry” central Ram Air duct gives the front of the bike a very aggressive look.
- * Lightweight and very bright dual multi-reflector headlight.
- * Swingarm-mounted inner fender looks cool and keeps the rear suspension cleaner.

Instruments

- * Racing-style instrument panel features a bar-type LCD tachometer, digital LCD speedometer, an adjustable shift indicator lamp, and a stopwatch-style lap timer – this in addition to digital temp gauge, clock, tripmeter and a comprehensive range of indicator lamps. The shift indicator lamp has three settings: Off, Low and Bright.

Other Touches

- * New matt-black frame and swingarm enhance the 6RR’s racy look.
- * Complementing the 04 Ninja ZX-6RR’s racier performance is a racy new lime-green drive chain.

ADDITIONAL FEATURES

Engine

- * Extremely narrow included valve angle of 25° allows the fitting of large valves in a compact, highly efficient combustion chamber.
- * Large-bore 38 mm throttle bodies with dual throttle valves deliver high engine performance across the rev range. Sub-throttles ensure smooth, linear power characteristics.
- * Unchanged is the high speed, 32 bit CPU which gives precise engine management under racing conditions. Short, lightweight, plug-mounted ignition coils are fitted, and 23 triggers on the pulser rotor ensure precise ignition timing.

Chassis

- * LED tail light is very light, highly compact and very durable. It also looks exceptionally cool.
- * Tamper resistant ignition switch.
- * MF-type battery simplifies periodic maintenance.
- * Quick-detach rear seat allows easy mounting of the single-seat cover.
- * One-piece forged aluminium handlebars are lightweight and are mounted in a rearward position. Bars are gun-drilled for lightness.

COLOUR(S)

- * Lime Green



SPECIFICATIONS

ENGINE	ZX600-M1
Type	Liquid-cooled, 4-stroke In-Line Four
Displacement	599 cm ³
Bore and Stroke	67.0 x 42.5 mm
Compression ratio	13.5:1
Valve system	DOHC, 16 valves
Fuel system	Fuel injection: Ø 38 mm x 4 (Keihin), twin injection
Ignition	Digital
Starting	Electric
Lubrication	Forced lubrication, wet sump
DRIVETRAIN	
Transmission	6-speed, return
Final drive	Sealed Chain
Primary reduction ratio	2.022 (89/44)
Gear ratios: 1st	2.714 (38/14)
2nd	2.055 (37/18)
3rd	1.722 (31/18)
4th	1.500 (33/22)
5th	1.333 (28/21)
6th	1.227 (27/22)
Final reduction ratio	2.666 (40/15)
Clutch	Wet multi-disc, manual
FRAME	
Type	Perimeter, pressed-aluminium
Wheel travel: front	120 mm
rear	135 mm
Tyre: front	120/65ZR17M/C (56W)
rear	180/55ZR17M/C (73W)
Caster (rake)	24.5°
Trail	95 mm
Steering angle (left/right)	27° / 27°

SUSPENSION	ZX600-M1
Front: Type	41 mm inverted cartridge fork with rebound and compression damping, spring preload adjustability and top-out springs
Rear: Type	Bottom-Link Uni-Trak with gas-charged shock, spring preload adjustability and top-out spring
Compression damping	Stepless
Rebound damping	Stepless
BRAKES	
Front: Type	Dual semi-floating 280 mm discs
Calliper	Dual radial-mount, opposed 4-piston, 4-pad
Rear: Type	Single 220 mm disc
Calliper	Single-bore pin-slide
DIMENSIONS	
Overall length	2,025 mm
Overall width	720 mm
Overall height	1,110 mm
Wheelbase	1,400 mm
Ground clearance	130 mm
Seat height	825 mm
Dry weight	161 kg
Fuel capacity	18 litres
PERFORMANCE	
Maximum power	86 kW {117 PS}/ 13,000 rpm (40A, 40B) 83.1 kW {113 PS}/ 12,000 rpm (201, 202, 205) 83 kW {113 PS}/ 12,000 rpm (303) 78.2 kW {106 PS}/ 13,000 rpm (40D)
Maximum power with Ram Air	90.6 kW {123 PS}/ 13,000 rpm (40A, 40B) 87.6 kW {119 PS}/ 12,000 rpm (201, 202, 205)
Maximum torque	65 N·m {6.6 kgf·m}/ 12,000 rpm (40A, 40B) 64.4 N·m {6.6 kgf·m}/ 11,000 rpm (201, 202, 205) 64 N·m {6.5 kgf·m}/ 11,000 rpm (303) 61 N·m {6.2 kgf·m}/ 11,500 rpm (40D)

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