



# 2004 Model Information

MODEL CODE: **ZX1200-B3**

MODEL NAME: **ZX-12R**



## MODEL CONCEPT

Pumping out more than 190 horsepower at the crankshaft with Ram Air, the ZX-12R power unit is the most powerful production motorcycle engine Kawasaki, or anyone else, has ever produced

This impressive liquid cooled, 4-cylinder, DOHC engine is equipped with Kawasaki's most advanced Ram Air system and electronic fuel injection. Lighting off the mixture in its high-compression 4-valve combustion chambers are lightweight, plug-mounted ignition coils. The ignition system delivers independent timing control for each cylinder based on a variety of information supplied to the ignition computer such as crank angle, throttle opening, cam position, rpm, etc. Feeding the engine is an electronically controlled fuel injection system that delivers hard-hitting, instantaneous throttle response with environmentally friendly exhaust emissions.

For efficient heat dispersion and long life, the ZX-12R runs with all-aluminium electroplated cylinders. These thinner cylinders allow a reduction in the distance between bore centres, for a narrower, more compact engine and shorter, stiffer crank, not to mention high cooling efficiency.

Chassis design centered on enhancing the original 12R's already formidable supersport handling characteristics. With the ZZ-R1200 neatly filling the role of supersport tourer, the ZX-12R's

chassis could be biased more towards satisfying the needs of the pure supersport rider.

Among the many chassis features are a monocoque aluminium frame with, to use a GP term, "tuned flex,"

## MAIN FEATURES

### Engine

Liquid-cooled, 1,199 cm<sup>3</sup>, DOHC, 16-valve 4-cylinder engine produces more horsepower than any other machine in its category.

Direct valve actuation with crowned lifters to equalise pressure across the cam lobes and reduce wear.

All-aluminium cylinder with electroplated bores is light, long wearing and offers superior heat dispersion. Forward cant of 20° improves weight distribution.

Connecting rods are constructed of chromium-molybdenum steel with carburised hardened surface treatment for exceptional strength and reliability.

Single balancer shaft located forward of the crankshaft spins at twice engine speed and eliminates secondary vibrations.

Electronic DENSO fuel injection with 46 mm throttle bodies assures brilliant throttle response, high output across the rev range and low exhaust emissions. Sensors include intake temp, ambient air temp, intake vacuum, crank angle, gear position, cam position, and water temp.

Ignition uses compact, plug-mounted stick coils for lightweight, dropout free highrpm operation.

Ignition timing and fuel loads are independently controlled for each cylinder.

Ram Air system adds approximately 13 horsepower in the higher speed ranges.

Monocoque frame allows use of perfectly straight, highly efficient straight intake ports.

Using the frame backbone as an airbox saves space and creates a very efficient airbox.

Magnesium valve, clutch, generator and pulsar covers contribute to low engine weight.

Free-breathing, 4-2-1 exhaust system features a lightweight all-titanium muffler with honeycomb catalyser and stainless steel exhaust pipes.

### Frame

Revolutionary all-aluminium monocoque frame was inspired by the monocoque frame used on Kawasaki's KR500 works racer.

Huge box section and cast steering head/swingarm pivot areas realise an extremely stiff structure and contribute to the ZX-12R's superb high-speed stability and supersport handling performance.

By eliminating the dual large-section beams of conventional aluminium frames, this frame design makes possible a much narrower and more compact overall package and greatly improves aerodynamics.

Under-seat fuel tank contributes to low CG and high mass-centralisation.

Extruded aluminium swingarm is lightweight and exceptionally rigid for stable handling performance at speed. Hexagonal structure with internal ribbing for low weight and good looks.

Battery mounts inside the frame and the battery cover is a structural element.

Grease nipples at swingarm and linkage points ease maintenance.



Hollow, 12 mm engine mounting bolts are lightweight and tough.

## Suspension

Inverted 43 mm cartridge front fork is fully adjustable for preload and compression/rebound damping.

Upper fork crown is made of lightweight cast aluminium to reduce weight, while the lower clamp is forged aluminium for high strength.

Bottom-Link Uni-Trak rear suspension uses aluminium linkage for light weight.

Nitrogen gas-charged shock with piggy-back reservoir is 5 mm shorter and uses a softer spring. Stepless spring preload and new stepless compression/rebound damping adjustment make it easy to adjust.

Rear shock features a special "bladder" instead of a floating piston that separates the nitrogen gas from the hydraulic fluid for superior fade resistance.

## Brakes

Front semi-floating 320 mm x 5 mm discs deliver superlative braking performance.

Opposed six-piston Tokico front brake calipers offer powerful braking performance and precise feel at the lever. Differential bore sizes contribute to superior performance: 27 mm x 2 & 24 mm x 1.

5-step adjustable front brake lever.

Rear disc brake uses lightweight 230 mm rotor with opposed-piston caliper.

Rear brake caliper holder mounts directly to swingarm, negating the need for an independent brake torque-rod.



## Wheels & Tyres

Lightweight cast alloy wheels reduce unsprung weight.

All new cast alloy wheels use hexagonal spokes.

17-inch radial tyres for excellent traction. Rear tyre specially designed for the ZX-12R.

Both front and rear axles and swingarm pivot are 25 mm in diameter and are hollow for high rigidity and low weight.

## Aerodynamics & Bodywork

Wind-tunnel designed fairing was developed with help from Kawasaki's aircraft division.

Winglets at each side of the fairing prevent turbulent air coming off the front brake area from degrading the laminar flow along the upper part of the fairing.

Cast-in wedges at the bottom of the fork sliders direct air around the fairing instead of allowing air to flow inward towards the engine where resistance is higher.

Diffusion cooling is used to increase cooling efficiency and reduce wind resistance from the air passing through the radiator.

Openings at the bottom interior edge of the fairing reduce air resistance and enhance cooling of the exhaust pipe area.

Aerodynamic single-seat cowl contributes to high-speed aerodynamics and is supplied as standard equipment.

## Other Practical Features

MF-type battery reduces periodic maintenance.

Large, under-seat storage area has space for a U-lock or other security device.

Seat uses special low-slip surface material for high comfort.

# SPECIFICATIONS ZX1200-B3

## ENGINE

Type	4-Stroke In-Line Four
Displacement	1,199 cm <sup>3</sup>
Bore and Stroke	83 x 55.4 mm
Compression ratio	12.2:1
Valve system	DOHC, 16 valves
Fuel injection	∅ 46mm 46EIS x 4 (Denso)
Ignition	Digital
Starting	Electric
Cooling	Liquid
Lubrication	Forced lubrication, wet sump
Exhaust	4-2-1

## DRIVETRAIN

Transmission	6-speed, return
Primary drive	Gear
Final drive	Sealed Chain
Clutch	Wet, multi-disc

## FRAME

Type		Pressed backbone (monocoque), aluminium
Suspension:	front	43 mm inverted cartridge fork with adjustable preload, stepless rebound and compression damping.
	rear	Bottom-Link Uni-Trak with gas-charged shock, piggy-back reservoir, stepless rebound and compression damping
Wheel travel:	front	120 mm
	rear	140 mm
Tyre:	front	120/70ZR17M/C (58W)
	rear	200/50ZR17M/C (75W)
Caster (rake)		25°
Trail		98 mm

## BRAKES

Front	Dual semi-floating 320 mm discs
Front caliper	Opposed 6-piston calipers
Rear	Single 230 mm disc
Rear caliper	Opposed two-piston caliper

## ELECTRICAL EQUIPMENT

Battery	12 V, 12 Ah
Headlight (high/low)	12 V, 60/55 W x 2
Tail/brake light	12 V, 5/21 W x 2

## **DIMENSIONS**

Overall length	2,085 mm
Overall width	740 mm
Overall height	1,200 mm
Wheelbase	1,450 mm
Ground clearance	120 mm
Seat height	820 mm
Dry weight	213 kg
Fuel capacity	19 litres

## **PERFORMANCE**

Maximum power	131 kW {178 PS}/ 10,500 rpm
Maximum power with Ram Air	140 kW {190 PS}/ 10,500 rpm
Maximum torque	134 N·m {13.7 kgf·m}/ 7,500 rpm

The specifications mentioned here apply to and have been achieved by production models under standard operating conditions.

We intend only to give a fair description of the vehicle and its performance capabilities but these specifications may not apply to every machine supplied for sale. Kawasaki Heavy Industries, Ltd. reserves the right to alter specifications without prior notice. Equipment illustrated and specifications may vary to meet individual markets. Available colours may vary by market.