

---

# 2005 Model Information

MARKETING CODE: **KX250R**

MODEL NAME: **KX250**



**Note:** While material contained herein may be used in the preparation of press releases, technical service material and other SP and marketing material, please keep in mind that this information is intended for internal use only.  
All data reflect factory tests. All data subject to change without notice.

# OVERALL CONCEPT

With the 4-strokes grabbing all the attention in motocross these days, die-hard 2-stroke lovers have had little to cheer about. Not any more! Because the '05 KX250 gets a new, more powerful engine, an updated chassis with brilliant handling and a host of other upgrades to keep it at the front of the pack.



The engine is all new and features independently operating KIPS valves, for stronger, more linear power across the rev range. While the cylinder has been re-ported for more power, and redesigned for improved cooling, the transmission offers better shifting. The engine is also lighter, thanks to new crankcases, a lighter KIPS mechanism and many other improvements. As a result of these changes, the engine has improved over-rev characteristics and class-leading low- and mid-range power, all without sacrificing the engine's mighty top-end power.

The race-winning perimeter frame benefits from a slightly steeper rake for responsive cornering performance, a new swingarm, revised linkage ratios for the new Uni-Trak rear suspension, an improved riding position and many other performance-enhancing modifications.

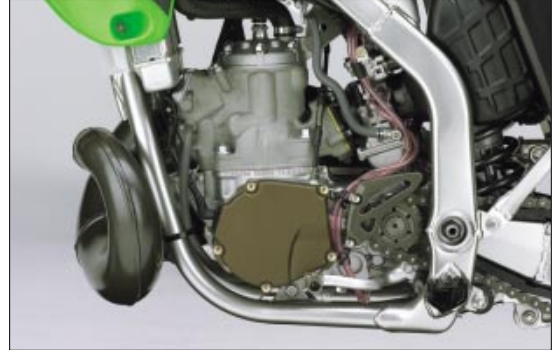
The KX250's key sales features can be summarised as follows:

- **Improved Engine Performance** – Re-ported cylinder with independent KIPS valve operation and improved cooling, cylinder mounting angle reduced to allow longer exhaust port, increased primary compression, redesigned reed valve, redesigned expansion chamber, improved over-rev characteristics.
- **Brilliant Handling and Improved Riding Position** – Steeper steering rake, new Uni-Trak ratios, lighter rims and tyres, new seat, and improved riding position are just some of the many chassis upgrades.

# KEY SALES FEATURES

## IMPROVED ENGINE PERFORMANCE

### Engine



- \* New KIPS: Previously, the main and sub valves operated simultaneously, causing power to come on rather suddenly after a slight gap in the 6,000 to 7,000 rpm range. By having the valves operate independently, the sub valves begin to open only after the main valve is fully open. Power comes on more smoothly, resulting in a more linear powerband, improved traction and overall more tractable power characteristics.
- \* The coolant passageways within the cylinder have been rerouted for improved cooling, particularly around the exhaust port. This prevents heat-induced power fade during long motos.
- \* The cylinder's forward mounting angle has been reduced from 10° to 5°. This allows use of a longer exhaust port, for improved power across the rev range.

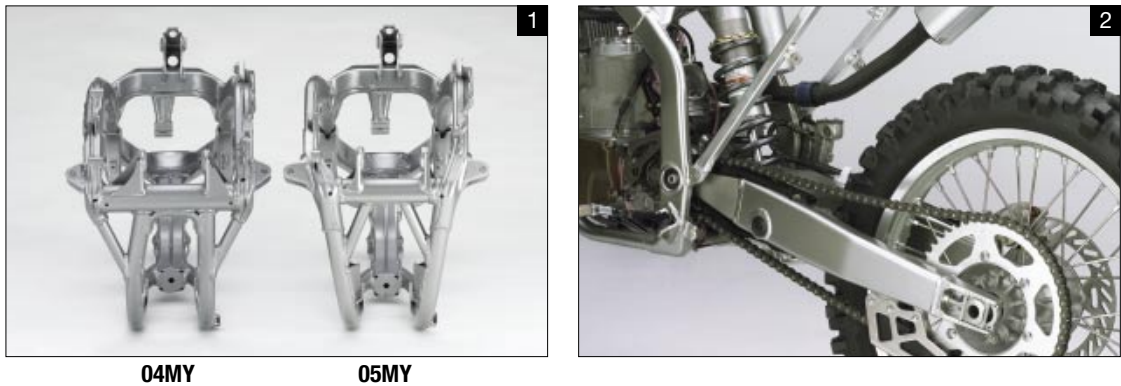
## BRILLIANT HANDLING & IMPROVED RIDING POSITION

### Frame & Swingarm



- \* The most significant modification to the lightweight steel perimeter frame is a decrease in steering rake from 27° to 26°, which sharpens up the steering for quicker cornering performance.

- \* The frame's stiffness balance has also been improved and a slimmer lower frame improves ground clearance. (Photo 1)



- \* While the design of the aluminium swingarm remains unchanged, main spars with thicker walls are more rigid for enhanced stability and handling. (Photo 2)
- \* The revised frame is narrower at the footpegs, giving the bike a slimmer feel. (Photo 3)



- \* Higher footpegs complement the new riding position while increasing ground clearance.
- \* The rear brake pedal is now mounted 15 mm higher for increased ground clearance, and to suit the new riding position.

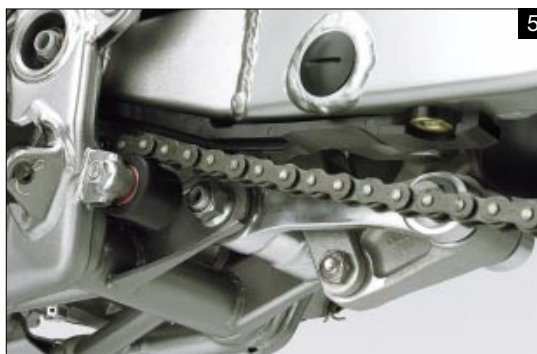
## Front Suspension

- \* New Kayaba fork keeps oil and air in separate chambers for stable damping performance during long motos. Low-friction fork seals contribute to smooth action. (Photo 4)



## Rear Suspension

- \* The new Uni-Trak rear suspension system features newly designed linkage ratios to suit the new frame and swingarm. (Photo 5)



## Ergonomics

- \* Revised handlebar bend contributes to improved rider mobility.
- \* New seat design is flatter for improved rider mobility. Seat height is increased by 10 mm. (Photo 6)



- \* New seat cover uses a high-grip top and smooth sides for good grip when sitting and high mobility when riding on the pegs. More durable urethane foam improves comfort and wear.
- \* Revised seat-to-peg distance gives riders greater freedom of movement when standing on the pegs.

## ADDITIONAL FEATURES

### Engine

- \* 249 cm<sup>3</sup> liquid-cooled, two-stroke Single with piston reed valve induction.
- \* Head gasket changed from metal gasket to O-rings, for improved sealing and more accurate deck height.
- \* New intake port design: single port with modified length and angle for improved intake efficiency. Scavenging port exit angle changed for improved scavenging efficiency, and the crankcase mating area around the scavenge ports has been increased. 3<sup>rd</sup> scavenging port also modified for improved flow.
- \* New reed valve: reed angle, air guide and reed block all changed for improved throttle response. (Photo 7)



- \* Intake air duct re-shaped to suit revised carb holder.
- \* New expansion chamber dimensions and improved construction (change from 4 pc. to 3 pc.) contributes to improved engine performance.
- \* Redesigned piston uses new rings and new piston sealing grooves to prevent ring snagging. Stronger pin boss improves durability.
- \* Clutch release shaft and lever modified, and release mechanism relocated behind generator cover.
- \* Shift performance improved by using involute splines on the 5<sup>th</sup> gear and on the output shaft. A needle bearing added to the shift shaft improves shift feel.

- \* New water pump uses revised pump gear ratios and a new impellor for increased coolant circulation. (Photo 8)



- \* Sprocket cover, governor cover, inner/outer clutch covers, and water pump cover changed to suit new crankcases.
- \* Generator cover changed from plastic to magnesium for improved appearance.
- \* Revised carburettor settings contribute to improved throttle response, and a new carb holder allows straighter incoming airflow.
- \* Radiator core length increased (from 220 to 240 mm) for improved cooling performance. (Photo 9)



- \* Upgraded ignition system features increased condenser capacity and a generator with a built-in regulator for light weight. Stator shape changed, and new wiring harness used. Ignition timing changed to suit new power characteristics.
- \* New spark plug with shorter body and electrode with different shape and material eases maintenance and weighs less.
- \* New, lightweight ignition coil is more compact.
- \* Ignition coil primary terminals feature waterproof couplers for increased reliability.

## Chassis

- \* Fuel tank filler outlet increased from 37 to 46 mm for easier fuelling.
- \* On-the-fly clutch adjuster added to clutch lever perch.
- \* New footpegs are wider and offer better grip. Shorter transverse length means greater cornering clearance.
- \* New front brake lever has better feel.

- \* Wider handlebar mounts (increased from 90 to 98 mm) help prevent handlebar bending.
- \* Clutch cable outer liner changed from polyethylene to Teflon for reduced friction.
- \* Stainless throttle cable wire with a greater number of thinner strands delivers superb, low-friction throttle operation.
- \* Low-friction throttle barrel also reduces throttle operating friction.
- \* New lightweight DID front rims with lightweight spokes and nipples reduce unsprung weight. New cross-section for rear rims also designed for light weight.
- \* Light fork and shock mounting bolts and a new rear brake master cylinder with a unitised reservoir and shorter yoke (17.5 mm shorter than '04 KX250) contribute to light weight.
- \* Fork mounting bolt locations changed on the top triple clamp for easier maintenance and stronger mounting (front/back > left/right).
- \* New front brake pad material offers better feel and performance.
- \* Chain guide roller now uses two bearings for greater durability.
- \* Rear sub-frame has larger forged upper mounting brackets for improved durability.

## Other

- \* Optional engine parts include carb tuning parts, ignition rotors with different inertial weights, a larger 14T front sprocket, and spark plugs of varying heat ranges.
- \* Optional chassis parts include a 20-inch front wheel, solid brake discs, a selection of aluminium and steel rear sprockets, different fork and shock springs, steel spoke nipples, and front/rear wheel assemblies.

## COLOUR(S)

- \* Lime Green with hot new graphics.





# SPECIFICATIONS

<b>ENGINE</b>	<b>KX250-R1</b>
Type	Liquid-cooled, 2-stroke Single with KIPS
Displacement	249 cm <sup>3</sup>
Bore and Stroke	66.4 x 72.0 mm
Compression ratio	10.2:1 (low speed); 8.9:1 (high speed) for EUR 10.5:1 (low speed); 9.1:1 (high speed) for USA/CAN/AUS
Induction	4-petal carbon-fibre piston reed valve
Fuel system	Carburettor: Keihin PWK 38S
Ignition	Digital CDI
Starting	Primary kick
Lubrication	Pre-mix (32:1)
<b>DRIVETRAIN</b>	
Transmission	5-speed, return
Final drive	Chain
Primary reduction ratio	3.000 (63/21)
Gear ratios:	
1st	1.800 (27/15)
2nd	1.437 (23/16)
3rd	1.176 (20/17)
4th	1.000 (21/21)
5th	0.869 (20/23)
Final reduction ratio	3.923 (51/13)
Clutch	Wet multi-disc, manual
<b>FRAME</b>	
Type	Perimeter, high-tensile steel
Wheel travel:	
front	300 mm
rear	310 mm
Tyre:	
front	80/100-21 51M
rear	110/90-19 62M
Caster (rake)	26°
Trail	105 mm
Steering angle (left/right)	42° / 42°

<b>SUSPENSION</b>	<b>KX250-R1</b>
Front: Type Compression damping Rebound damping	48 mm upside-down cartridge-type telescopic fork 16-way 16-way
Rear: Type Compression damping Rebound damping Spring preload	New Uni-Trak 16-way 16-way Fully adjustable
<b>BRAKES</b>	
Front: Type Caliper	Single semi-floating 250 mm disc Dual-piston
Rear: Type Caliper	Single 240 mm disc Single-piston
<b>DIMENSIONS</b>	
Overall length	2,185 mm
Overall width	840 mm
Overall height	1,265 mm
Wheelbase	1,480 mm
Ground clearance	340 mm
Seat height	965 mm
Dry weight	97 kg
Fuel capacity	8.2 litres
<b>PERFORMANCE</b>	
Maximum power	42.8 kW {58.2 PS}/ 9,000 rpm
Maximum torque	50.5 N·m {5.15 kgf·m}/ 8,000 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.